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THESIS

IMPLEMENTATION OF TOTAL QUALITY LEADERSHIP IN THE TURKISH ARMY ACADEMY

by

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June 2000

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IMPLEMENTATION OF TOTAL QUALITY LEADERSHIP IN THE TURKISH ARMY ACADEMY

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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

Total Quality Leadership (TQL) activities commenced in the Turkish Army Academy in early 1997. This thesis investigates the current implementation status of TQL in Turkish Army Academy through a TQL Climate Survey and interviews. The data suggest that while quality is important to the Academy, the officers are not confident that the TQL program will help them achieve it. The compatibility of the TQL philosophy with Turkish Army Academy is discussed. Recommendations are also provided.

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I. INTRODUCTION

A. BACKGROUND

1. Japan and Total Quality Management

Total Quality Management (TQM) is not a new philosophy. TQM, a combination of statistical processes and management principles, was first introduced in Japan after World War II when the Japanese began rebuilding their industries. W. Edwards Deming, a legend in Japan, introduced TQM to Japanese industrialists, engineers and businessmen in the early 1950s. [Ref. 24:p. 6]. He emphasized the use of statistical techniques, the importance of a trained work force, and quality improvement. Japan quickly embraced Deming's teachings and many Japanese companies adopted the TQM philosophy. Eventually, Japan became one of the world's leading industrial powers.

2. The United States of America and Total Quality Management

During the 1950s, the U.S. was thriving economically because it was the only highly industrialized country with its factories intact and production capabilities unmatched throughout the world. Although the U.S. had practiced some statistical quality control during the war, these methods were dropped after the war because of the high demand for consumer products. Because of this demand, quantity and quotas were emphasized, which led to an obsession with meeting schedules. Over the years, the U.S. was content to produce "satisfactory" products, while Japan was learning how to produce "quality" products at reduced cost. This advantage became a threat to American industry and was a reason why American corporations were in decline. The emphasis had been on productivity at the expense of quality. [Ref 2:p. 1-5]

In the 1980s, many American industrial leaders became aware of Japan's high performance and Deming's emphasis on quality. Shifting their focus to quality helped many American companies become more competitive and successful. By the mid-1980s, a few universities in the U.S. began offering statistics courses related to production and management as part of their curricula. [Ref. 2:p. 1-6]

3. Total Quality Management in the Department of Defense

The Department of Defense (DoD) does not have to face the economic competitiveness of private industry. However, recent cutbacks in the defense budget required DoD to make some tough decisions, one of which was to address the funding problem with increased efficiency and productivity through the implementation of TQM. [Ref 3:p. 3]

The DoD's position about TQM was formally announced on March 30, 1988 by the Secretary of Defense, Frank Carlucci. The memorandum, whose subject was the "DoD Posture on Quality," expressed that TQM was, "the vehicle for attaining continuous quality improvement in our operations," required a "focus on quality" as a guide in "achieving higher levels of performance," and was considered as a major strategy to meet the President's productivity objectives under Executive Order 12522. [Ref. 4: p. 1]

The DoD defines TQM in the Total Quality Management Guide as follows:

> TQM is both a philosophy and a set of guiding principles and practices that represent the foundation of a continuously improving organization. It applies human resources and quantitative methods to improve the material and services supplied to an organization, and the degree to which the needs of the customer are met now and in the future. It integrates fundamental management techniques, existing improvement efforts, and technical tools in a disciplined and focused continuous improvement process. [Ref. 5:p. 1]

One of the basic tenets of TQM is that an organization should be able to control the quality of materials it receives from its suppliers. Therefore, it is imperative that the DoD develop effective methods within the TQM framework, such as Statistical Process Control (SPC), to motivate defense industry suppliers to embrace the concepts of continuous process improvement. Many DoD senior officials feel the best approach to encouraging private industry to adopt TQM would be to incorporate TQM criteria into the source selection process, a time when competition should aid in the selection of the best contractor for the job. [Ref. 3:p. 3]

4. Total Quality Leadership in the Department of Navy

The Navy's Executive Steering Group (ESG) was chartered by the Secretary of the Navy in 1988. The role of the ESG was to identify and prioritize strategic goals for quality improvement within the Navy and determine the overall Department of Navy (DoN) vision, guiding principles, and goals in support of the Naval Force's mission. They were also charged with developing the education and training strategy. The DoN ESG was chaired by the Under Secretary of Navy. [Ref. 6:p. 14]

The ESG's actions included tasking the Navy Personnel Research Development Center with the development of the Senior Leadership Seminar Class to begin the top down transformation. They also adopted the title Total Quality Leadership (TQL) for the Navy's total quality philosophy. The title Total Quality Leadership was chosen because it illustrated the emphasis on leadership and the important role leadership would play in the transformation. [Ref. 6: p. 15]

In the DoN ESG on TQL, the Secretary of the Navy emphasized:

> TQL is an approach to leading and managing that is guided by a total view of how all systems of work and people blend together to meet mission

> requirements, and ultimately perform the service for our country. TQL is a bottom-line approach to assess and improve continually the processes by which an organization conducts its business. Lower operating costs increased satisfaction on the part of the customer or end user, increased productivity, and improved operational readiness will result as quality improves. [Ref. 7:p. 1]

Admiral Kelso, Chief of Naval Operations, issued a memorandum on August 13, 1990, emphasizing the implementation of TQL throughout the DoN.

On February 10, 1992, the DoN Strategic Plan for TQL was issued. To emphasize at the highest levels of senior leadership, it was signed by the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps. [Ref. 8:p. 1]

> TQL was developed by the Department of the Navy for the Department of the Navy. DoN leaders examined various approaches and concluded from their studies that Deming philosophy and methods best suited the unique requirements of the organization. In the view of the Department, his approach is the most comprehensive – driven from the top, focused on the user, with decisions based on hard data. [Ref. 9: p. 22]

The DoN TQL implementation strategy had two parts: (1) the delegation of responsibilities for process management to field activities and establishment of the critical mass, and (2) the delegation of headquarters' responsibilities for strategic change. [Ref. 29:p. 35]

The DoN Executive Steering Group (ESG) believed that education and training would be essential to achieving a successful transformation. The Senior Leaders Seminar (SLS) was developed for senior leaders as they rotated into their new command assignments. The ESG wanted to ensure an in-house capability to provide a consistent delivery of identical, high quality TQL concepts throughout the DoN, at a reasonable cost. In support of the objective the ESG formed an Education and Training Advisory

Group. The Advisory Group established the critical elements in the training strategy to support TQL implementation. These elements were: (1) DoN in-house training capability, (2) train the trainer, (3) top-down implementation, (4) education before training, (5) just-in-time skills training, (6) team training, (7) integrated training, (8) continuing training. [Ref. 28:p. iii]

There are many lessons learned from TQL implementation in the Fleet. The leadership style of the Commanding Officer (CO) and the culture of the organization have a great impact on successful initiation of TQL practices. There are no essential differences between operational units and shore support commands with regard to requirements for TQL education, training, and implementation. There are differences between operational units and shore support commands with regard to the conduct of TQL education, training, and implementation. [Ref. 30:p. 54]

New challenges to improve efficiency and effectiveness have caused the DoN to focus its direction on revolutionizing its business support functions. [Ref. 38:p. 1] In July 1999, Richard Danzig, the Secretary of the Navy, issued a cover letter regarding the transformation of the DoN's strategic management into "Revolution in Business Affairs." New mission and vision statements, and implementation of Business Strategy were determined for the DoN according to the "Revolution in Business Affairs." [Ref. 39:p. 1]

1999 DoN Posture stated:

> The Department's business vision is to efficiently and effectively design, acquire a support the world's premier operational naval forces. Our vision must ensure that Department of Navy business practices typify those of the best public and commercial enterprises. By committing Revolution in Business Affairs, which complements Revolution in Military Affairs, the Navy will become a more combat-effective and cost-efficient force postured for the 21st Century. [Ref. 40:p. 1]

The National Partnership for Reinventing Government and the Government Performance Results are other governmental programs that affect DoN activities. The National Partnership for Reinventing Government is the Clinton-Gore Administration's initiative to reform the way the federal government works. [Ref. 41:p. 1] The Government Performance and Results Act (GPRA), enacted in 1993, requires federal agencies to establish standards measuring their performance and effectiveness. [Ref. 42:p. 1]

5. Total Quality Leadership in the Turkish Armed Forces

On November 21, 1997, the Turkish General Staff issued "TQL Implementation Directive-1," which initiated the TQL process within the Turkish Armed Forces. On April 20, 1998, the Turkish General Staff issued a second directive, "TQL Implementation Directive in the Turkish Armed Forces-2." In that directive, the "Work Excellence Model" was adopted for every installation of the Turkish Armed Forces. [Ref. 11, p. 7]

TQL has been evaluated as an application to make the current management system more effective in the Turkish Armed Forces. TQL was adopted to solve problems, improve supplier/customer satisfaction, and provide significant improvements in the source selection process. The goal has been to create a TQL organization culture in all military services and departments. It was expected that improvement in cost reduction and high quality would be provided via TQL. Particularly, continuous improvement in all processes of the Turkish Armed Forces has been the main purpose.

When the TQL had been deemed to be consistent with Turkish culture, Total Quality, a set of dynamic and interactive characteristics, had been assessed as a process, consisting of seven steps: [Ref. 11: p. 7]

1. Make up change decision
2. Inform training
3. Establish standards which safeguards quality
4. Prepare infrastructure to institutionalize Work Excellence
5. Build up self-evaluation
6. Benchmark treatment with other organizations in the award process
7. Provide the establishment of life quality and continuity [Ref. 11: p. 7]

6. Total Quality Leadership in the Turkish Army Academy

At the beginning of 1997, in parallel to the establishment of the "TQL Executive Steering Committee (ESC)" in the Turkish General Staff, TQL activities started in the Turkish Army Academy. Consistent with TQL activities, the Research and Development Project Group, titled "TQL implementation in Turkish Army Academy," was established. The Research and Development Project Group presented its research results to the Research and Development Board of the Turkish Army Academy, and many project group meetings were held to determine what should be done for the implementation of TQL. Consequently, the "Turkish Army Academy TQL Implementation Special Directive" was prepared as a draft. [Ref. 12: p.30]

The Turkish Army Academy established a nine-step TQL plan:

1. Determination of mission
2. Determination of customers and customer needs
3. Determination of vision
4. Determination of objectives
5. Determination of critical process and benchmarking criteria

6. Development of strategic planning process
7. Preparation of annual plans
8. Determination of change strategies
9. Establishment of annual review and evaluation system. [Ref. 12: p. 13]

B. OBJECTIVE AND RESEARCH QUESTIONS

1. Objective

The implementation of TQL has been successful in many U.S. DoD organizations. At this time, the Turkish Army Academy provides a unique environment for the TQL philosophy.

This thesis aims to explore how TQL philosophy is being implemented in the Turkish Army Academy. Quality is vital to Turkish Armed Forces and quality improvement is key to increasing productivity. Many questions exist concerning the problems faced when implementing the TQL philosophy throughout the Turkish Armed Forces and Turkish Army Academy. The main focus of this research will be to explore the compatibility of the TQL philosophy with the Turkish Army Academy. There are many obstacles to the successful implementation of TQL in a military organization; i.e. resistance to change, lack of training, and a perception that TQL could mean additional paperwork. This research also will try to explore what barriers or obstacles exist to prevent implementing TQL in the Turkish Army Academy.

2. Research Questions

a. Primary Research Question

What is the implementation status of TQL in the Turkish Army Academy?

b. Subsidiary Research Questions

(1) To what extent has a TQL process been implemented in the Turkish Army Academy?

(2) What leadership competencies are supportive of implementing TQL at the Turkish Army Academy?

(3) What barriers or obstacles exist to prevent implementing TQL in the Turkish Army Academy?

C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

1. Scope

The scope of this thesis will be limited to the exploration of TQL implementation status in the Turkish Army Academy and what problems have been faced. TQL philosophy will be described from its inception to its use in DoN. Data obtained from the Turkish Army Academy will be analyzed to identify how the implementation process is working. It is expected that the other Turkish military organizations can implement TQL more effectively by assessing the findings and recommendations discussed in this thesis.

2. Limitations

The basis of this thesis is concentrated on six-month study of TQL and its applicability in the Turkish Army Academy. It is based on data obtained from the Turkish Army Academy; i.e. survey, interviews, and current TQL studies in the Academy. The data will be analyzed and TQL implementation status will be determined from the analysis.

3. Assumptions

This thesis provides practical information about TQL and implementation process of TQL in the Turkish Army Academy. It is assumed that the reader has no information about the TQL philosophy and may be unfamiliar with W. Edwards Deming's fourteen points. It is also assumed that other Turkish military organizations may benefit from this thesis as they evaluate their TQL programs.

D. ORGANIZATION OF THE THESIS

The thesis is organized into five chapters.

Chapter I provides an introduction to the subject and a justification for the research.

Chapter II contains TQL philosophy and principles, the tools and techniques used.

Chapter III discusses the methodology of the study and data collection.

Chapter IV presents the implementation status of the TQL philosophy in the Turkish Army Academy.

Chapter V contains conclusions and recommendations for future implementations of TQL by the other Turkish military organizations.

II. LITERATURE REVIEW

This chapter describes some of the basic Total Quality Leadership (TQL) concepts. The chapter contains five sections. Section A discusses the dimensions and definition of quality, major approaches to quality, and quality in government service. Section B explains the evolution of quality control. Section C continues with the definition of TQL. Section D describes the Deming approach to quality management. The Deming approach to quality management consists of the system of profound knowledge, Deming's fourteen points of management and the Plan-Do-Check-Act (PDCA) cycle. Section E explains the Department of the Navy's (DoN) approach to TQL including the implementation of TQL in the DoN and lessons learned from the Fleet. Section F presents TQL in the Turkish Army Academy.

A. QUALITY

1. Dimensions of Quality

Quality is multi-faceted and not easy to define. According to the *Fundamentals of Total Quality Leadership Student Guide* these dimensions offer a possible framework for thinking about what determines "quality."

- **Performance** – Primary operating characteristic.
- **Timeliness** – Occurring at a suitable time.
- **Reliability** – Extent of failure-free operation
- **Durability** – Amount of use before replacement is preferable to repair.
- **Aesthetics** – Characteristics that relate to the senses.
- **Personal interface** – A connection between people.
- **Reputation** – Having a favorable or publicly recognized name or standing.
- **Ease of use** – Freedom from difficulty or great effort.

- **Conformance to specifications** – Degree to which a product's design and operating characteristics match pre-established standards.
- **Features** – Added touches.
- **Consistency** – A product or service is the same throughout and remains constant over time, a time dimension.
- **Uniformity** – Identical, with little variation in detail, a physical feature.
- **Accuracy** – The degree of correctness of a quantity, expression, or facts.

Two more dimensions that are frequently heard these days relate to environmental impact and health and nutrition. For all these various quality dimensions, the focus is on what the customer needs and wants. [Ref. 2: pp. 10-12]

2. Definition of Quality

There is no single, universally accepted definition of quality. The following definitions are some of the ways that "Quality" is defined:

"Quality means conformance to requirements." [Ref. 33:p. 14]

"Quality means best for certain customer conditions. These conditions are (a) the actual use, (b) the selling price of the product." [Ref. 35:p. 1]

"Quality consists of those product features which meet the needs of the customer and thereby provide product satisfaction." [Ref. 34:p. 2-2]

If quality is to be defined in a way, which is useful to management, then there is a need to include in the assessment of quality, the true requirements of the customer – his/her needs and expectations.

Crosby defines quality as conformance to requirements, and the cost of quality is measurable as a cost savings to the organization. By concentrating on scrap, rework, service, warranty, inspection and testing, the cost of the quality can be reduced. As Crosby states, "In fact, quality is precisely measurable by the oldest and most respected

of measurements – cold hard cash." The absence of quality is very expensive. This expense is a tangible loss to organization. [Ref. 33:p. 15]

If organizations with poor quality were punished solely in a fiscal aspect, few would manage to stay in business. Their punishment, however, includes a semi-tangible customer cost. Common sense shows that if a customer is not satisfied with a product or service and an alternative is available, that customer will choose the alternative. The customer's satisfaction can be real or perceived. If the customer's perceptions have been met or exceeded, the customer is likely to remain loyal over time and refer additional customers to the product or service. With this viewpoint, quality may be whatever the customer determines it is. [Ref. 36:p. 5]

Deming uses a triangle (Figure 2.1) to define the three corners of "Quality." He states that quality should be measured by the interaction of the product, the customer and how he uses the product, and lastly, instructions for use of the product, training of the service provider, and availability of parts.

Crosby states that if effective quality management is to be practical and achievable, it must start at the top. Deming argues, "Quality is determined by top management. It cannot be delegated. Hard work, best efforts, and best intentions will not by themselves produce quality." [Ref. 22:p. 17]

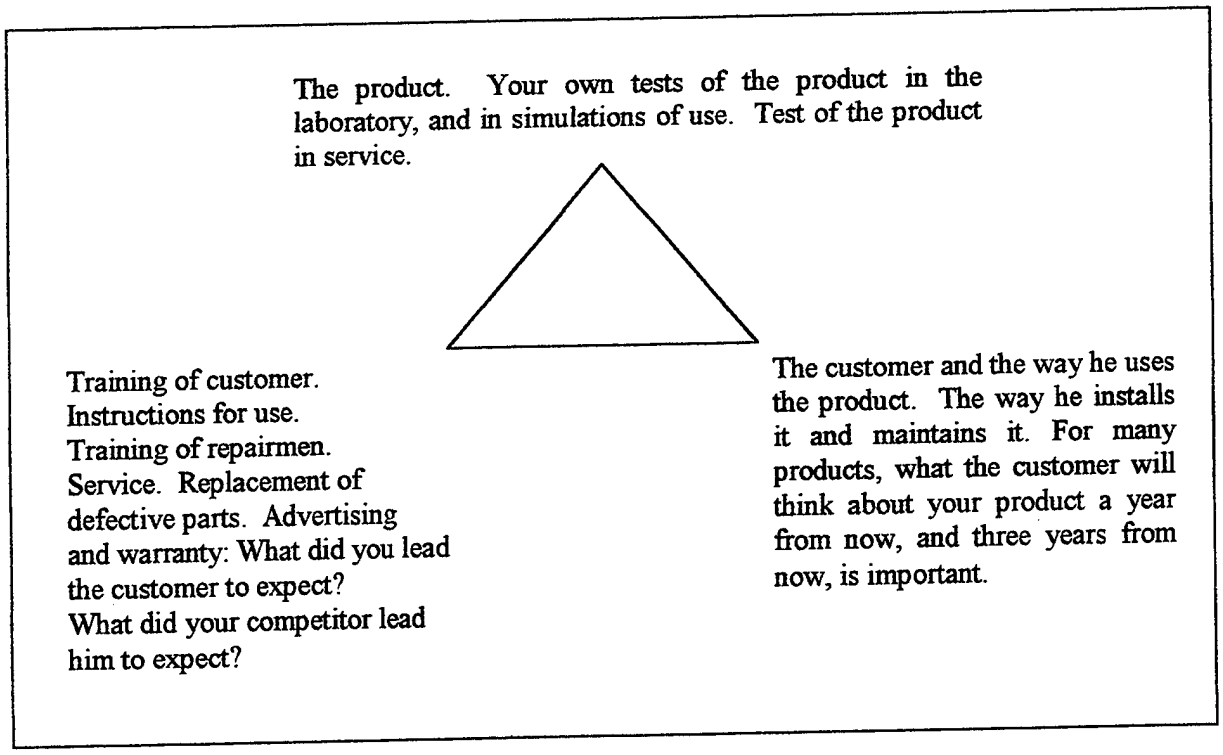

Figure 2.1. The Three Corners of Quality [Ref. 13:p. 177]

In reality, approximately 20 percent of defective products can be attributed to the line worker. Management, who actually controls the processes, is primarily responsible for the system, which equates to the remaining 80 percent. [Ref. 14:p. 75]

3. Approaches to Quality

Garvin, the author of *What does Product Quality Really Mean?* discusses the different views of product quality in terms of philosophy, economics, marketing, and operations management. He describes five major approaches to defining quality.

1. The transcendent approach
2. The product-based approach
3. The user-based approach
4. The manufacturing-based approach
5. The value-based approach [Ref. 15:pp. 25-43]

The transcendent approach is innate and unable to be broken down. In the product-based approach, quality is determined by the amount of some desired ingredient or attribute. In the user-based approach, quality is that which meets the individual needs and preferences of a consumer. In the manufacturing-based approach, quality means conformance to requirements. It is the degree to which a specific product conforms to a design or specification. In a value-based approach, quality represents a balance between performance and price. A quality product is one that provides performance at an acceptable price or conformance at an acceptable cost. [Ref. 15:pp. 25-43]

Deming's premise of the customer-based process improvement approach to quality is: As quality improves, costs decrease and productivity increases. With lower costs and higher quality, there is the potential for increased market share and growth (see Figure 2.2). Deming's chain reaction for quality improvement indicates that the focus should be on building quality in the production process. [Ref. 2:p. 44]

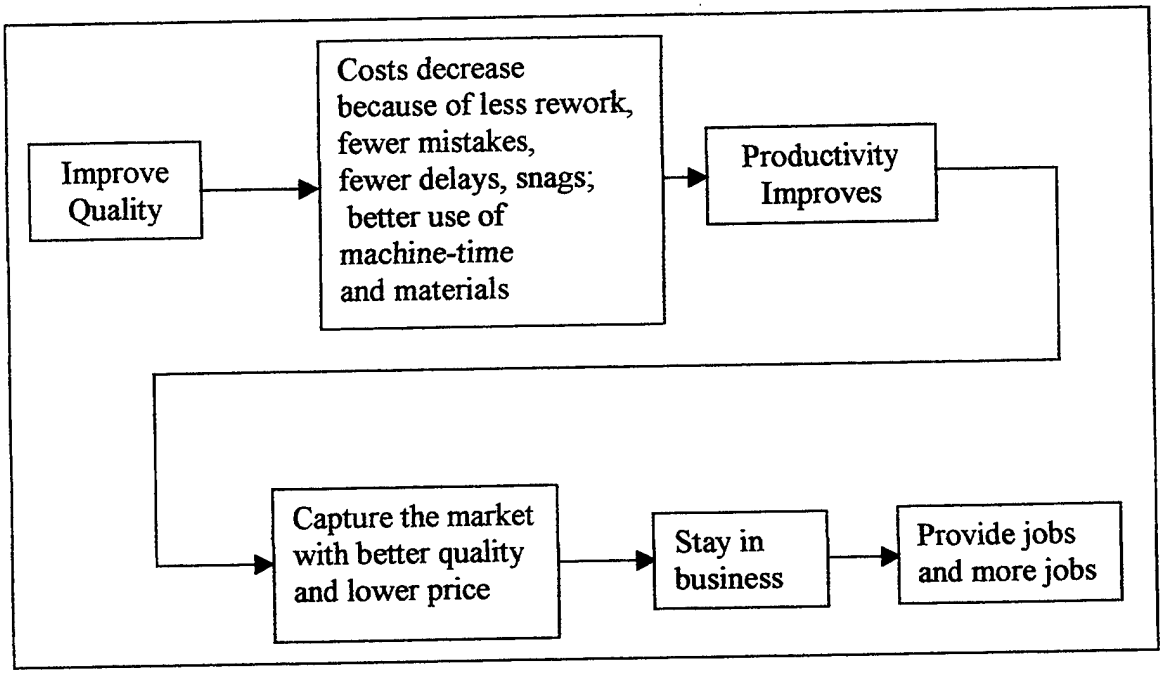

Figure 2.2. Deming's Chain Reaction for Quality Improvement [Ref. 2:p. 44]

4. Quality in Government Service

Deming emphasizes the importance of quality in government service. He states:

> In most governmental services, there is no market to capture. For capture of the market, a governmental agency should deliver economically the service prescribed by law or regulation. The aim should be distinction in service. Continual improvement in government service would earn appreciation of the American public and would hold jobs in the service, and help industry to create more jobs. [Ref. 13:p. 6]

Distinction in service at reduced cost is the key objective. Having a good reputation via distinction in service is significant for survival in government agencies.

The chain reaction in the Department of the Navy indicates that as quality improves, costs decrease and productivity increases. Less rework, fewer delays, a better use of equipment, and more efficient use of time provides lowered costs. Lower costs and higher quality lead to an improvement in mission readiness. In place of staying in business and providing jobs and more jobs, the national defense remains strong. [Ref. 2:p. 47]

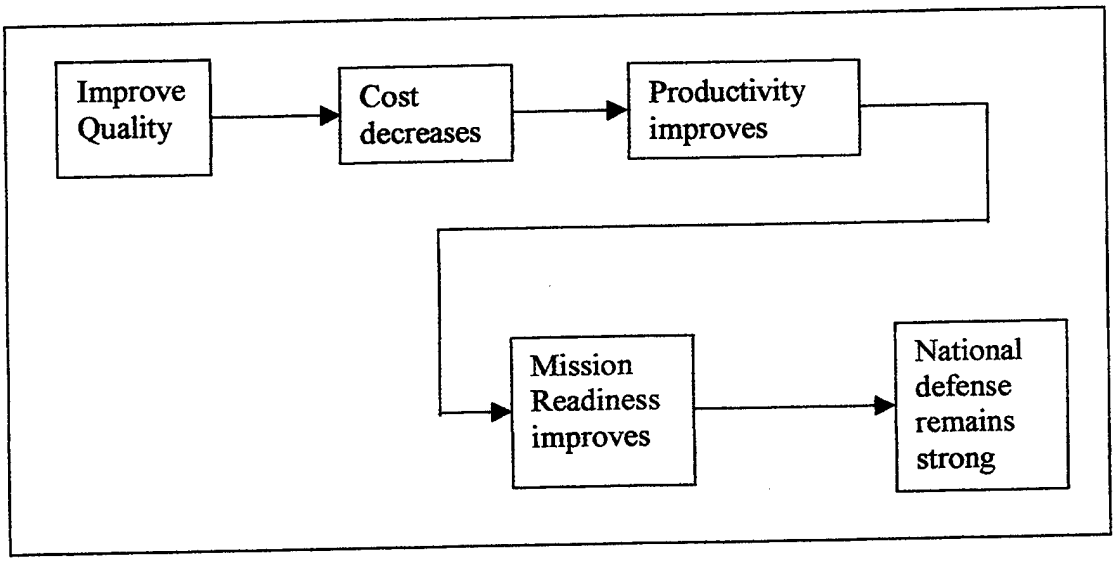

Figure 2.3. The Chain Reaction in the DoN [Ref. 2:p. 47]

B. THE EVOLUTION OF QUALITY CONTROL

Garvin argues that quality control has evolved over the last two centuries, which can be categorized into four eras. [Ref. 16:pp. 65-75]

The first era, the Inspection Era, covered the 18th, 19th centuries and early 1900s. The main characteristic of this era was the conformance to the standard. Inspection was an objective and verifiable process. [Ref. 16:pp. 65-75]

The second era, the Statistical Quality Control (SQC) era, started in the 1930s and lasted through the mid-1950s. This era was mostly attributed to Shewhart's theories. Shewhart developed techniques to bring industrial processes into what he called statistical control. Shewhart had defined the limits of random variation in any aspect of a worker's task, setting acceptable highs and lows, so that points outside those limits could be detected and the causes studied. Workers could be trained to do this charting themselves, giving them greater control over their jobs and allowing them to make adjustments on their own, Shewhart's genius, Deming would often say, was in recognizing when to act and when to leave a process alone. [Ref. 17:p. 7]

The third era, the Quality Assurance (QA) era, lasted from the mid-1950s to the end of the 1960s. Many Quality Assurance concepts emerged such as Zero Defects and Total Quality Control. In this period, quality moved from being controlled to being coordinated and prevention of defects were emphasized. [Ref. 20:p. 6]

The fourth and last era, the Strategic Quality Management era, started in 1970 when the companies understood the strategic importance of quality management. This era is the continuing and refinement of the Total Quality Management (TQM) philosophy. [Ref. 5:p. 1] During the 1970s and 1980s, United States attempted to import

some of the "secrets," such as quality circles or just in time. Not until the mid-1980s was the label TQM extensively used to emphasize the crucial role of management in the quality process. [Ref. 24:p. 51] This era emphasized fundamental management techniques, existing improvement efforts and technical tools under a disciplined approach focused on continuous process improvement. [Ref. 5:p. 1] DoN derived Total Quality Leadership (TQL) from the TQM concepts.

C. TOTAL QUALITY LEADERSHIP (TQL) DEFINED

TQL was created by the Department of the Navy (DoN) and was based largely on the teaching of Deming. "Total" refers to the whole system. The system is composed of all processes, all people including customers and suppliers. "Quality" is reflected in the products as defined by the customer. "Leadership" means that top-down leadership is necessary to undertake and achieve the cultural transformation required to reach the goal of creating a total quality organization.

The DoN defines TQL as follows:

TQL is the application of quantitative methods and knowledge of people to assess and improve:

- Materials and services supplied to the organization;
- All significant processes within the organization;
- Meeting the needs of the end-user, now and in the future.
  [Ref. 2:pp. 1-51]

The aim of TQL is to achieve continual improvements in combat readiness, sustainability, and operational support. Everyone in the organization is involved in process improvement. Processes are measured systematically and data gathered on them. Based on that data, actions are taken that lead to improvements. The DoN uses a

scientific approach –the Plan-Do-Check-Act cycle– as the basis for continuous process improvement. [Ref. 18:p. 9]

TQL is a continuous improvement process that is customer-focused, is led by the chief executive, features participative or delegative leadership, and a disciplined management process, is powered by the cooperative effort –teamwork, is designed to improve performance as measured by quality and production improvements which reduces life cycle costs and improves the quality of work life in a quality environment, and is accomplished through continuous training for all with appropriate rewards and recognition for accomplishments. [Ref. 19:p. 16]

TQL is not a program that has a start and end like so many other programs. TQL is a leadership philosophy, which provides a powerful means for improving operational readiness and for shaping the future.

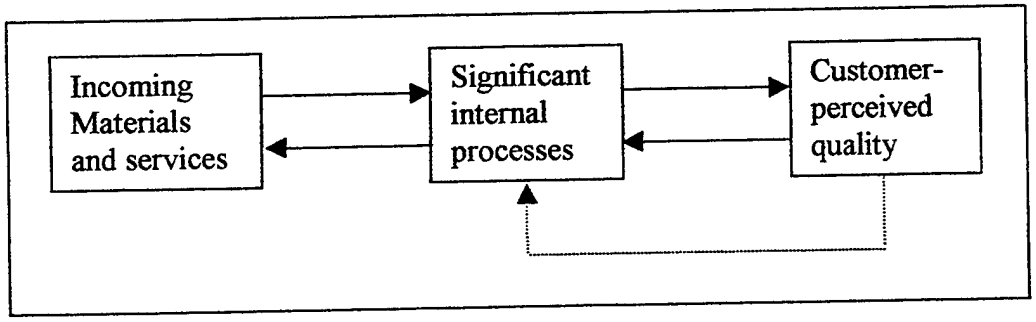

Figure 2.4. Total Quality Leadership Model [Ref. 2:p. 1-53]

TQL model focuses on three fundamental elements: (1) the relationship among materials and services (suppliers), (2) significant processes, and (3) the end-user (the customer as shown in the model. The connecting arrows among the three elements show the communication links that represent: (a) a decision to accept or reject a product or service (forward arrow), or (b) feedback for product improvement (backward arrow). In

the case of "customer-perceived quality," there are two feedback arrows. The solid-line feedback arrow represents customer information about the quality of the products or services being received. The dotted-line feedback arrow represents marketing information for future requirements and innovations. The full potential of TQL can be realized with addressing all three elements in this model and maintaining constant, two-way communication among them. [Ref. 2:p. 1-53]

D. THE DEMING APPROACH TO QUALITY MANAGEMENT

As shown in Figure 2.5, the Deming approach to quality management is made up of three elements: "The System of Profound Knowledge," "Deming's 14 Points," and the "Plan-Do-Check-Act (PDCA) Cycle and process improvement tools." The purpose of Deming's System of Profound Knowledge is to provide knowledge that leads to understanding how to improve quality. The understanding of such knowledge will result in better products and processes. [Ref. 2:p. 2-4]

According to Deming (1993), the prevailing style of management must undergo transformation. The transformation requires profound knowledge. The individual components of the system, instead of being competitive, will reinforce each other for optimization of the system. The same transformation is required in government and in education. [Ref. 22:p. 94]

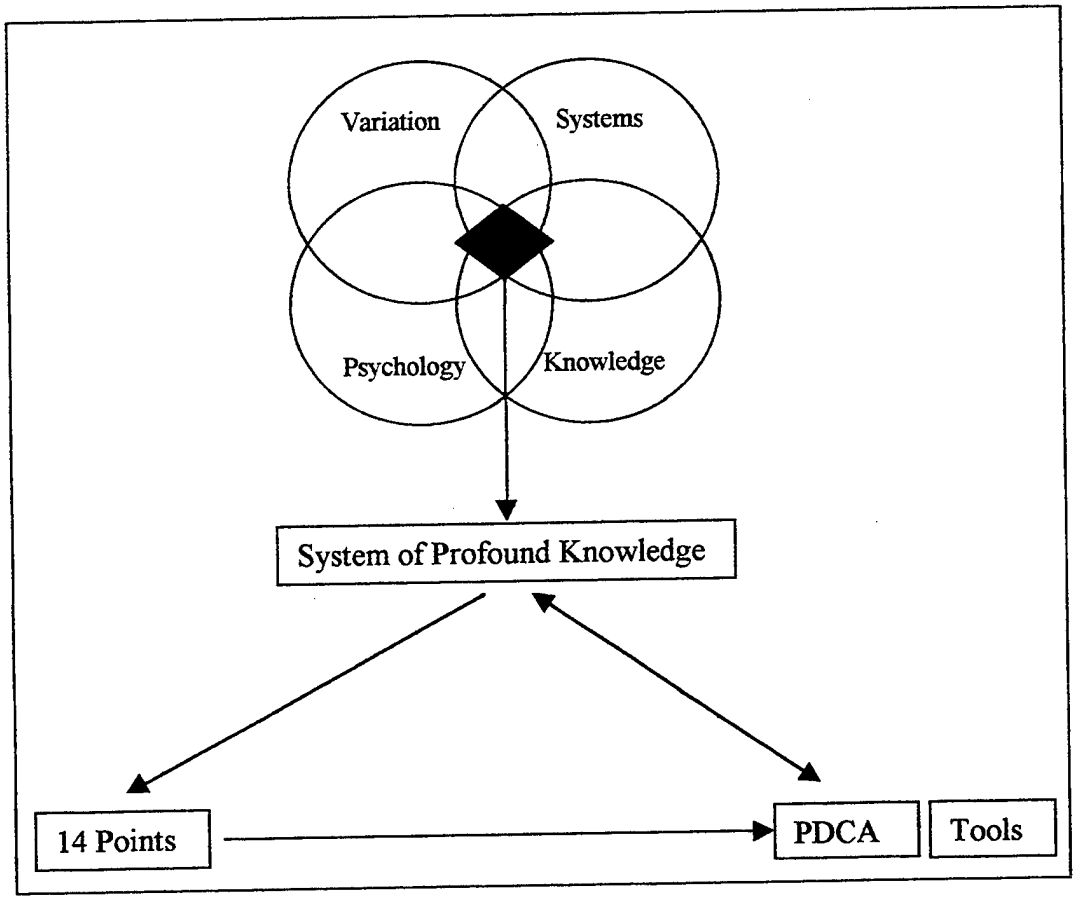

Figure 2.5. The Deming Approach to Quality Management [Ref. 2:p. 6]

1. System of Profound Knowledge

Deming's System of Profound Knowledge is made up of four interrelated parts:

- Systems theory
- Variation
- Psychology of individuals and organizations, learning and change.
- Theory of knowledge

Deming (1993) stated that:

The system of profound knowledge provides a lens. It provides a new map of theory by which to understand and optimize the organizations that we work in, and thus to make a contribution to the whole country. As a good rule, profound knowledge comes from the outside, and by invitation. A system cannot understand itself. The transformation will require

leaders. A company that seeks the help of profound knowledge is already poised for the transformation. [Ref. 22:p. 94]

a. Systems

A system is a network of interdependent components that work together to try to accomplish the aim of the system. A system must have an aim. Without an aim, there is no system. Optimization is a process of orchestrating the efforts of all components toward achievement of the stated aim. The greater the interdependence between components, the greater will be the need for communication and cooperation between them. The obligation of any component is to contribute its best to the system, not to maximize its own production, profit, or sales, nor any other competitive measure. Optimization for everyone concerned should be the basis for negotiation between any two people, between divisions, between union and management, between companies, between competitors, between countries. Everybody would gain. [Ref. 22:pp. 98-100] Suboptimization occurs when the subsystems do not support the goals of the organization. [Ref. 21:pp. 2-10]

Deming (1993) explained the system in that way:

> An example of a system, well optimized is a good orchestra. The players are not there to play solos as prima donnas, each one trying to catch the ear of the listener. They are there to support each other. Individually, they need not be the best players in the country. Thus, each of the 140 players in the Royal Philharmonic Orchestra of London is there to support the other 139 players. An orchestra is judged by listeners, not so much by illustrious players, but by the way they work together. The conductor, as manager, begets cooperation between the players, as a system, every player to support the others. There are other aims for an orchestra, such as joy in work for the players and for the conductor. [Ref. 22:p. 99]

To people in management, the system consists of:

- Style of management
- Employees
- People in the country
- Work experience
    1. Education
    2. Unemployed
- Government
    1. Taxes
    2. Reports
    3. Tariffs
    4. Impediments to trade and industry
    5. Requirements to fill positions by quota, not by competence
    6. Quotas for import and export
- Foreign governments
    1. Quotas for import and export
    2. Manipulation of currency
- Customers
- Shareholders
- Bank
- Environmental constraints

According to Deming (1986), "Management has much power and discretion, but cannot move all the earth. To the production worker, the system is all but him." [Ref.13:p. 317]

b. Variation

The word "variation" means that there are deviations in data, characteristics, or functions from the target value or average. In other words, no two things are ever identical. Variation is the law of nature. Two coins, nails, people, or

marbles may appear alike, but there are differences in each. Variation occurs in all things, regardless of product, service, or process. [Ref. 24:p. 260]

Variation is inherent in all processes. Shewhart, a statistician, discovered that when he took many measurements of the same process output, he obtained a distribution of values no matter how many times he performed the measurement. He always found variation. [Ref. 21:pp. 3-9]

A process may be in statistical control; it may not be. In the state of statistical control, the variation to expect in the future is predictable. Costs, performance, quality, and quantity are predictable. Shewhart called this the stable state. If the process is not stable, then it is unstable. Its performance is not predictable. [Ref. 22:p. 102]

There are two mistakes frequently made in attempts to improve results, both costly. It may now be formulated two sources of loss from confusion of special causes with common causes of variation.

1. Ascribe a variation or a mistake to a special cause when in fact the cause belongs to the system (common causes).
2. Ascribe a variation or a mistake to the system (common causes) when in fact the cause was special. [Ref. 13:p. 318]

Process variation can be thought of as having two sources: common causes and special causes. A common cause reflects routine variation inherent in any process. A special or assignable cause reflects additional variation associated with a specific occurrence. All processes exhibit common cause variation. Some processes have, in addition, special cause variation. Common cause variation is general, routine variation that is "built-in"; it is a continuing characteristic of the process. Conversely, special cause variation occurs intermittently and is associated with a specific event, e.g.,

writing a letter with a different hand. The ability to determine the presence (or absence) of special cause variation is crucial for effective management. Common cause variation can be reduced only by changing the process, which is usually a managerial responsibility. Consider the following list as examples of where variation might occur:

COMMON CAUSES

- Raw materials
- Machinery not suited to requirements
- Excessive dust
- Poor light
- Inadequate training
- Over-riding management emphasis on quantity
- Maintenance practices
- Poor design

SPECIAL CAUSES

- Poor eyesight
- Change in supplier
- Substance abuse
- New employee
- Air-conditioning problems
- Measuring instrument malfunction
- Equipment failure
- Illness [Ref. 23:p. 103]

Reduction in common cause variation falls under the responsibility of organizational leadership and the reduction of special cause variation is the responsibility of the people working in the system with leadership assistance. [Ref. 21:pp. 3-28]

c. Psychology

Psychology helps us to understand people, interaction between people and circumstances. People are different from one another. A manager of people must be aware of these differences and use them for optimization of everybody's abilities and inclinations. People learn in different ways and at different speeds. [Ref. 22:p. 110]

In TQL, two areas of psychology are of particular importance – industrial/organizational psychology and organizational behavior. These areas cover such topics as organizational design, the psychology of work, individual differences, motivation, reward systems, small group (team) and organizational behavior, cultural change in organizations, and leadership. [Ref. 2:pp. 4-5]

Taking advantage of the energy of teams is an effective way to address the problems and challenges of continuous improvement. Teams and groups are the primary vehicles for planning and problem solving in TQL. [Ref. 24:p. 54] Companies have organized around team-based organizations for two basic reasons:

1. Empowering teams allows employees to contribute more to the business and to improve quality, and
2. Teamwork increases productivity. [Ref. 24:p. 81]

Teamwork can also promote improved communications throughout the organization. Both internal and external customers have improved access to information. Perhaps one of the most significant impacts of teams is breaking down long-established barriers between departments. This is especially true of cross-functional teams. Teamwork often helps promote, train, and develop individuals for other responsibilities within the organization. [Ref. 24:p. 219]

d. Theory of Knowledge

The theory of knowledge relates to how knowledge is obtained and how it may be increased. This theory is reflected by the scientific method, which is used to advance the state of knowledge in different fields. The scientific method requires formulating a theory, testing the theory, explaining the results of events and predicting future results or events based on the theory. The method also requires collecting, analyzing and interpreting data about the theory under consideration. Finally, a theory is supported, disproved or modified based on information from data analysis. [Ref. 21:p. 5-5]

In TQL, the theory of knowledge prescribes a systematic way of learning more about organizational processes to help foster process improvement and innovation. [Ref. 2:p. 5-7] In a TQL organization, everyone's focus must be on process improvement. The key ingredient for this is knowledge of the processes, knowledge of the methods, and tools of process improvement. [Ref. 2:p. 5-13]

2. Deming's Fourteen Points of Management

The fourteen points apply to all organizations – to small organizations and large ones, to service industries and to manufacturers. They apply to each division within a company. They apply to public and private organizations and to military and civilian organizations. The fourteen points are a road map of change. They are applications of profound knowledge. The fourteen points are ways to put profound knowledge into practice. The understanding of fourteen points is necessary to (a) to make the changes needed in the organization, and (2) direct the day-to-day tasks in your implementation efforts. [Ref. 2:p. 7-5]

The fourteen points represent a total system. It cannot be practiced by implementing some points and ignoring the others. On the other hand, it is not mandatory to accomplish them all at once. [Ref. 2:p. 7-3]

- **Point 1: Create and publish to all employees a statement of the aims and purposes of the company or other organization. The management must demonstrate constantly their commitment to this statement.** [Ref. 2:p. 7-5]

Establishment of constancy of purpose means acceptance of obligations like the following: (a) Innovation, (b) Allocating resources for long-term planning, (c) Putting resources into research and education, and (d) Constantly improving the design of product and service. [Ref. 13:p. 25]

- **Point 2: Learn the new philosophy, top management and everybody.** [Ref. 2:p. 7-11]

The new philosophy is the optimization of every process within companies, and within industries, to provide product and service that is maximally useful at lowest possible cost. [Ref. 26:p. 168]

- **Point 3: Understand the purpose of inspection, for improvement of processes and reduction of cost.** [Ref. 1:p. 7-15]

Routine 100 percent inspection to improve quality is equivalent to planning for defects, acknowledgment that the process has not the capability required for the specifications. Quality comes not from inspection, but from improvement of the production process. Inspection, scrap, downgrading, and rework are not corrective action on the process. It is important to carry out inspection at the right point for minimum total cost. [Ref. 13:p. 28]

- **Point 4: End the practice of awarding business on the basis of price tag alone.** [Ref. 2:p. 7-19]

Point 4 is a tough requirement for large, bureaucratic organizations (like the Navy and Marine Corps), which have endless regulations governing the acquisition process. Currently, Navy and Marine Corps seem bound by contracting laws and regulations requiring competitive bidding among suppliers. The DoN (and the federal government) must change its culture before this point can be fully realized. For example, it must change the way it approaches contracting. [Ref. 2:p. 7-21]

- **Point 5: Improve constantly and forever the system of production and service.** [Ref. 2:p. 7-25]

Improving quality by reducing process variation is a cornerstone of the philosophy of TQL. The idea of improvement by reducing variation is a central concept to remember. As we reduce process variation by using the PDCA cycle. Quality is a changing target. For example, weaponry considered effective today may be unacceptable tomorrow due to innovations in technology. This points up the need for continual improvement. Leaders are responsible for determining system quality and taking appropriate actions. [Ref. 2:p. 7-25]

- **Point 6: Institute training (for skills)** [Ref. 2:p. 7-28]

People at all levels of the organization need to know their jobs and how they can contribute to total quality. Point 6 focuses on the need for the organization to make sure its people are properly trained to understand and do their jobs. It is critical that all employees not only receive the training needed to do their work, they must receive training in how to improve the processes in which they work. Training must be viewed as a system. It is vital that organizations consider the costs involved in training all their

people as an investment and not as an expense. Job training is a never-ending requirement. The multi-skilled labor force is becoming more common. Leaders have the responsibility for developing a policy of cross training and for retraining employees in new technologies and skills to help them keep up with changes. [Ref. 2:p. 7-28]

- **Point 7: Teach and institute leadership** [Ref. 2:p. 7-33]

Leadership is a people-oriented concept that operates outside and beyond the boundaries of rules and policies. Leadership is the art and skill that cements everything together and makes it happen. Leadership exists at all levels of an organization from the work force to the executive suite and each level in between. [Ref. 19:p. 57]

The switch to a pursuit of TQL means change. Some people seem to resist change. The changes will not occur without leadership, and the role of the leader also must change. [Ref. 2:p. 7-35]

- **Point 8: Drive out fear. Create trust. Create a climate for innovation.** [Ref. 2:p. 7-37]

Fear is a roadblock to quality. The sources of fear that inhabit organizations are: (a) Knowledge-based fears, (b) Loss of control fears, (c) Shoot the messenger fears (d) the fear of change, and (e) the fear of failure. [Ref. 19:p. 197]

Fear is expensive. It increases costs. Every member of an organization has information that leaders could use to improve the organization. These lost opportunities for improvement mean the organization continues its faulty practices, which are often costly. Fear also increases costs because people spend time (wasted labor hours) engaged in activities that are not in the best interest of the organization. [Ref. 2:p. 7-38]

- **Point 9: Optimize toward the aims and purposes of the company, the efforts of teams, groups, staff areas, too.** [Ref. 2:p. 7-40]

Point 9 is the teamwork point. It calls for leaders to break down barriers between departments and work together to solve problems as a team. Effective teamwork at all levels in the organization is a major implementing and sustaining mechanism for TQL. Point 9 relates to the way the various departments in an organization should work together toward the aims and purposes of the organization. The concept of cross-functional teams plays a central role for organizations pursuing total quality. Cross-functional teams improve horizontal and vertical communication. [Ref. 2:p. 7-40]

- **Point 10: Eliminate slogans, exhortations, and targets for the workforce** [Ref. 2:p. 7-45]

Exhortations and posters generate frustration and resentment. The immediate effect of a campaign of posters, exhortations, and pledges may well be some fleeting improvement of quality and productivity, the effect of elimination of some obvious special causes. In time, improvement ceases or even reverses. The campaign is eventually recognized as a hoax. The management needs to learn that the main responsibility is theirs from now on to improve the system, and, of course, to remove any special causes detected by statistical methods. [Ref. 13:p. 67]

- **Point 11: (a) Eliminate numerical quotas for production. Instead, learn and institute methods for improvement. (b) Eliminate M.B.O. (Management By Objective). Instead learn the capabilities of processes, and how to improve them.** [Ref. 2:p. 7-49]

Point 11(a) calls for the elimination of numerical quotas for production. A numerical quota is a count of the number of items produced or actions taken, usually by an individual worker, for a particular job. Many supervisors do not know how to do the jobs they supervise. Instead, they manage "by the numbers." These leaders substitute

quotas for leadership. For Deming, "The job of management is to replace work standards by knowledgeable and intelligent leadership." [Ref. 13:p. 75]

Point 11(b) is about the leader's role in process improvement. M.B.O., as practiced in most organizations today, does not foster teamwork but often fosters internal competition (which leads to suboptimization) instead of cooperation. The atmosphere established by such practices is not consistent with process improvement or with win-win thinking. [Ref. 2:p. 7-51]

- **Point 12: Remove Barriers to Pride of Workmanship** [Ref. 2:p. 7-53]

According to Deming, leadership must allow people at all levels to experience pride of workmanship and pride in the organization vice experiencing apathy, frustration and estrangement. Process ownership should be developed, and authority should be delegated to the lowest appropriate level. People's needs should be recognized and nurtured for self-esteem, and respect. [Ref. 27:pp. 2-15]

- **Point 13: Encourage education and self-improvement for everyone** [Ref. 2:p. 7-60]

For Deming, what an organization needs is not just good people; it needs people that are improving with education. Shortage exists at the high levels of knowledge. Management must go through new learning. [Ref. 13:p. 86]

TQL is effective when everyone in the organization is trained in basic statistical process methods. If the training is successful, the workers will have the tools to monitor and correct quality deficiencies and to progress toward a continuous improvement system. [Ref. 20:p. 37]

- **Point 14: Take action to accomplish the transformation.** [Ref. 2:p. 7-63]

Deming thought that management in authority will struggle over every one of the above 13 points, the deadly diseases, the obstacles. They will agree on their meaning and on the direction to take. Management in authority will explain by seminars and other means to a critical mass of people in the company why change is necessary, and that the change will involve everybody. [Ref. 13:p. 86]

Leaders in an organization must practice quality leadership to build and expand the critical mass and begin the quality chain reaction, foster innovation and improvement in everyone; coach and counsel vice judging. [Ref. 27:pp. 2-15]

3. The Plan-Do-Check-Act (PDCA) Cycle

The Plan-Do-Check-Act (PDCA) Cycle is a four-step, never-ending process for solving problems, planning, making decisions, and process improvement (Figure 2.6). It is commonly called the Deming cycle. The Deming cycle was originally called the Shewhart cycle after its founder, Walter Shewhart. [Ref. 24:p. 238]

The PDCA Cycle provides a model or process for teams. It can be applied to any process including a budget, vacation, company goals, or any corrective action. It is based on the simple premise that to achieve quality you must plan for it, do (implement) it, check (analyze) the results, and act (take action) for improvement. [Ref. 24:p. 238]

During the first step, a "plan" is developed for change or improvement of effects. It may be a plan to decrease the causes of variation in the process, deliver more effective training, analyze customer (internal or external) needs, or develop a data collecting strategy. During the planning step, you must develop a problem statement, determine which data are needed, and develop the check sheet. Brainstorming is commonly used to

identify what you already know, identify what you still need to learn, and identify potential improvement ideas or plans. The plan must also be based upon facts and data. [Ref. 24:p. 239]

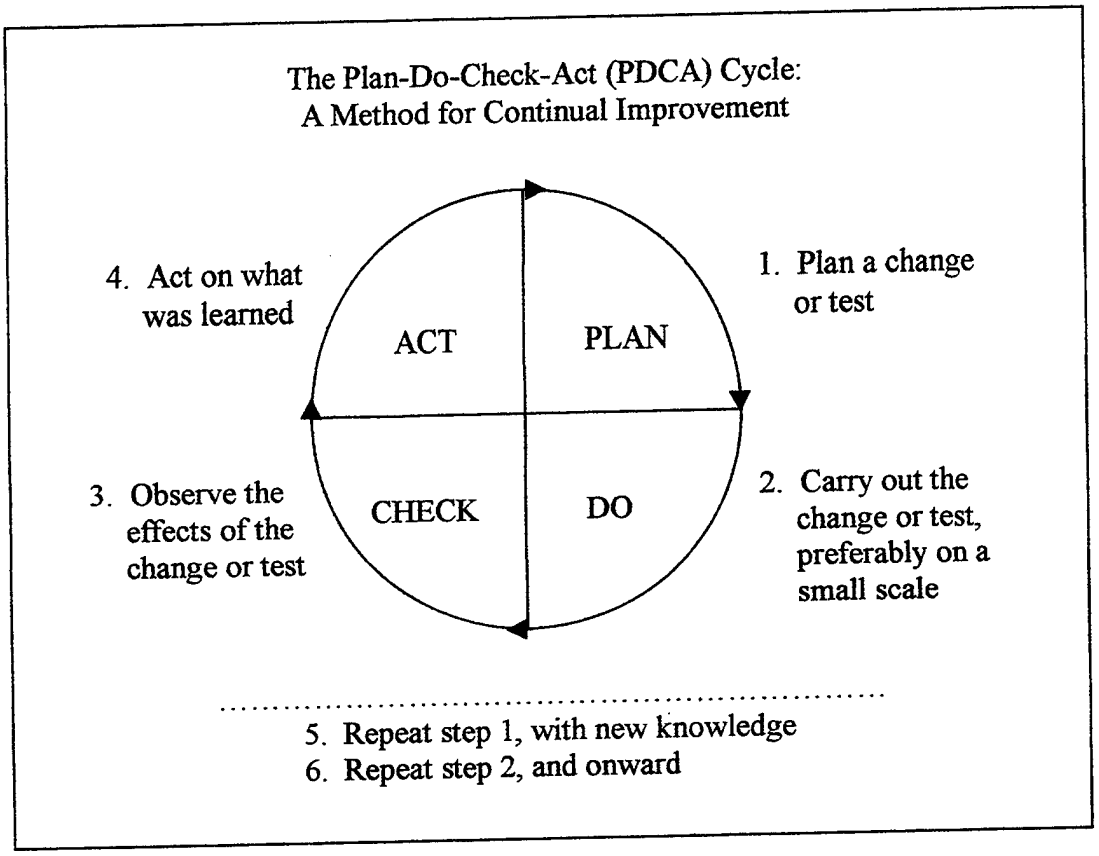

Figure 2.6. The PDCA Cycle [Ref. 2:p. 5-22]

"Do" is the second step. The plan must be implemented to determine its functionality, and applied usage. The proposed improvement is generally attempted on a small scale and preferably in a controlled environment. Data are carefully collected during this stage. [Ref. 24:p. 239]

The third step is to "check" the effects of the plan. Data gathered during the doing stage are analyzed to determine if the proposed improvements result in more customer satisfaction. The data are compared with benchmarks and the knowledge of

team members, and a consensus is based upon factual observations. It is essential to know whether the outcomes were different than expected or perhaps even undesirable. [Ref. 24:p. 239]

The last step is to "act" upon the (positive or negative) results. These results are studied and decisions are made to modify, implement, formalize a policy, or integrate changes into the organization. The cycle begins again to make certain that improvements were caused by the planned changes. [Ref. 24:p. 239]

It may be necessary to repeat the plan step with new knowledge gained from any of the steps. Because the PDCA cycle operates on the premise that there are always opportunities for improvement and differences between customer needs and performance, the cycle should begin again. [Ref. 24:p. 239]

E. THE DoN APPROACH TO TQL

The Department of the Navy (DoN) has had to contend with rising costs, pressure to reduce defense expenditures, and reduced manning levels. It needs to become more efficient in its processes to maintain operational readiness. Cooperation across the services is necessary. The DoN needs to achieve higher levels of internal integration of the logistics, maintenance, and acquisition functions as they relate to serving the operational forces. In this regard, the support functions need to develop a customer orientation based on the new principles of quality. [Ref. 2:p. 1-25]

1. The DoN as a Traditional Organization

The traditional military structure is linked vertically through the chain of command. This type of structure historically has been the most effective way to transmit the message of the leader down through the organization. This downward

communication has been extremely necessary and effective during combat when timely response and control are required. However, during peace times, this organizational approach creates some of current problems such as the following: [Ref. 2:p. 2-21]

- Institutionalizes top-down communication

The traditional organization is hierarchical in that it provides a very efficient reporting structure for top-down communication. People of higher rank and authority communicate policy and information down through the organization. This authority structure often institutionalizes the practice of one-way communication, which creates barriers to upward communication. [Ref. 2:p. 2-22]

- Impedes the aims of the system when organized by function

The traditional organizational structure is arranged by function. Unfortunately, what typically happens is that each department behaves like a separate entity to preserve its own life. While this hierarchy is a highly effective way to transmit information from top to bottom, it is not always the best way to communicate across functions. With this structure, people seldom consider how the actions of one function or department affect other departments or the organization as a whole. These unseen horizontal barriers across the organization are a major contributor to suboptimization. [Ref. 2:p. 2-22]

- Reduces the sense of ownership

When work is functionally organized and managed by department, it is difficult for employees to see their individual contribution to the aims of the organization. When the product leaves the department, any feeling of ownership goes with it. When the work on the product is fragmented, this also reduces employee feelings of ownership. Reducing the employee's sense of ownership often results in feelings that best efforts

have little or no effect on the finished product that goes to the customer. An understanding of how the product contributes to the organization's aims can be important in determining how the employee approaches his work. [Ref. 2:p. 2-23]

- Encourages "we-they" thinking

Downstream problems can often be traced to earlier stages in the process. But, the upstream supplier often does not know the needs of the downstream customer. These needs can't be communicated easily when employees are both physically and organizationally separated. This separation often leads to "we-they" thinking, which further reduces communication. Ironically, this can occur even when both the upstream and downstream workers are doing their best. Doing one's best often does not lead to the results that might be achieved by communicating and working together. [Ref. 2:p. 2-23]

- Increases the cost of supervision

A supervisor would oversee their work for both quality and process flow. The idea of "span of control" developed since a supervisor could oversee only a few employees at a time. The idea of "span of control" led naturally to systems of supervisory compensation based on the number of employees supervised. Such a compensation system does little to encourage improvement in work processes or allow qualified employees to exercise autonomy in their work. Instead, it may add more paperwork to the process and can increase the number of employees. This, in turn, increases the total cost of supervision. [Ref. 2:p. 2-23]

- Reduces the organization's flexibility to respond to issues that cross departments

Bureaucratic structures are highly rigid in the traditional organization, which reduces the organization's flexibility to respond to issues and make decisions that cross

departments. When people try to improve the process, they meet barriers because the structure lacks the required flexibility to allow lower-people in the organization to make decisions. [Ref. 2:p. 2-24]

These obstacles could be overcome if departments would focus across the process and work together in "cross-functional teams" toward common goals. It is necessary to organize around processes where: (a) the chain of command is maintained, (b) the organization is process-oriented, and (c) the organization is linked horizontally and vertically for communication and decision-making. [Ref. 2:p. 2-24]

2. Implementation of TQL in the Department of the Navy

a. Two-Phased TQL Implementation Approach

The DoN TQL implementation strategy had two parts: (1) the delegation of responsibilities for process management to field activities, establishment of the critical mass, and (2) the delegation of headquarters' responsibilities for strategic change.

Phase one consisted of establishing the capability for practicing process management throughout the command and creating a critical mass of leaders. The senior leaders who practice the principles of TQL tried to identify and improve all of the command's processes. Achieving critical mass was accomplished by education. A period of education was necessary for leaders to understand the implications that TQL implementation was for the jobs and command mission. Process management was the new job of leaders in the command. Improvement efforts were focused on the processes important to enhancing mission performance. Each command tried to identify those processes and organize teams of process owners to improve them. [Ref. 29:p. 35]

Phase two was the organizational transformation, which consisted of making the necessary changes in the organizational structures and personnel policies. Phase one included short-term issues, while phase-two focused on long-term changes. The methodology to achieve long-term changes was strategic management. There were implications of changing command's culture, leadership style, decision-making authority, and relationships with customers and suppliers. These changes required much more time than the phase one. [Ref. 29:p. 35]

b. Education and Training

The DoN Executive Steering Group (ESG) wanted to ensure an in-house capability to provide a consistent delivery of identical, high quality TQL concepts throughout the DoN, at a reasonable cost. With this objective in mind, the ESG formed an Education and Training Advisory Group, which established the critical elements in the training strategy to support TQL implementation. [Ref. 28:p. iii]

The Education and Training Advisory Group completed several implementations such as: (a) Adopting a train-the-trainer concept to ensure a critical mass within the DoN receive the necessary education, (b) Developing guidelines for the development of a TQL curriculum, (c) Establishing TQL schools at Coronado/CA and Little Creek/VA, (d) Selecting and training a cadre of TQL specialists to form the faculty of the two schools. [Ref. 28:p. 9]

c. Establishment of Critical Mass

The critical mass is defined as: "Those people within an organization who possess sufficient knowledge, power and leadership to initiate and sustain a cultural change." The change to a TQL approach cannot be done by top leaders alone. They

must develop a critical mass in the organization-people who understand the approach and have the power to make the required change. [Ref. 2:p. 2-18]

The critical mass is the catalyst required to begin the change. Elements of the critical mass must include leaders with the vision to show the way, and enough people who have knowledge and power. These people must understand the Fourteen Points and have some appreciation and understanding of the System of Profound Knowledge. Finally, they must lead the change effort. The DoN was using a team-based management structure to build the critical mass. [Ref. 2:p. 2-19]

d. The Quality Improvement Team Structure

Quality Improvement Teams, organized around processes, offer a solution to the problems of the traditional organizational structure (see Figure 2.7). This team approach complements the traditional organizational structure by increasing the interaction and cooperation between departments without compromising the chain of command. In fact, power comes to the teams by the authority of the chain of command. But the focus is on the process. The Quality Improvement Team structure also gives the workers a sense of process ownership and identity, creating a more fulfilling and happier work environment. [Ref. 2:p. 2-25]

(1) Executive Steering Committee (ESC). The ESC was composed of the organization's top leaders and was chaired by the TQL leader (preferably the commanding officer or the civilian equivalent). The ESC membership included the commanding officer, the executive officer, department heads, and the command master chief. It should be a small group, preferably seven to ten members. The ESC set the stage for the TQL transformation. [Ref. 2:p. 2-28]

ESC was formed to clarify mission and vision statements, set goals, help oversee change, and draft policies to support a strategic implementation plan. [Ref. 24:p. 150]

Some of the basic roles and functions of the ESC were:

- Establish clarity of direction, goals, mission, and vision.
- Provide visible leadership and commitment to quality and TQL.
- Establish clear requirements to objectively measure quality.
- Demonstrate continual improvement through training and education.
- Provide active management participation with workers and build good labor relationships.
- Provide a conductive culture to make TQL happen.
- Provide facilitators, facilities, time, resources, and constant encouragement from management.
- Function through teamwork and focus on customers. [Ref. 24:p. 150]

The purpose of the ESC was to ensure that planning was carried out, resources were provided, and the whole process was led from the top. The ESC provided identity, structure, and legitimacy to the TQL effort. It was responsible for planning, leading, launching, coordinating, and overseeing the whole TQL effort. [Ref. 24:p. 150}

Once the ESC has identified a process for improvement, it can then identify the process owners by identifying the major steps of the process through flow-charting. The ESC selected middle organization from the functional areas and forms a Quality Management Board (QMB). The QMB was provided a written charter that defined the scope of the process work to be done. [Ref. 2:p. 2-30]

(2) Quality Management Board (QMB). A QMB was a cross-functional team composed of the middle managers (process owners), who were jointly responsible for a process. If a process were very large and complex, it could be necessary to establish hierarchical QMBs, with the higher-level QMB overseeing the coordination of one or more lower-level QMBs. [Ref. 2:p. 2-32]

Some of the basic roles and functions of the QMB were:

- Help identify and initiate quality improvement projects that have the best chance of success.
- Present an attitude to produce error-free tasks.
- Provide leadership, guidance and technical assistance.
- Set guidelines and targets for the improvement system.
- Monitor continuous quality improvement.
- Direct, initiate, identify, and provide education and training to individuals and groups.
- Provide vertical and horizontal communication linkage.
- Assist Process Action Teams (PAT) in identifying and preventing process problems. [Ref. 24:p. 154]

The QMB worked under the guidance of the ESC to establish the philosophy and methodology of TQL implementation. The vertical and horizontal linkages help to establish lines of communication. It could be the QMB's decision that strategic actions and resources were targeted at specific projects. [Ref. 24:p. 155]

When boundaries of the process were within the span of control of one leader or supervisor, the QMB could charter a PAT to help the QMB, as necessary, in data collection and analysis. Based on data received from PAT, the QMB evaluated the effectiveness of the changes to the process under study. The cost or scope

of proposed process change could be beyond the authority spelled out in the QMB's charter. When this happened QMB went to the ESC for resolution. [Ref. 2:p. 2-33]

(3) Process Action Team (PAT). While the QMB membership was composed of those managers who owned and worked on the process, the PAT was composed of the subordinates who were most directly involved in a process that was under the span of control of one supervisor or manager. They were the process workers. The QMB chartered a PAT on an ad hoc basis when the QMB identified a specific area or step within the process that needed investigation. Unlike the ESC and QMB, the PAT was a temporary team that came together to look at a specific issue. The PAT activities were directed and supported by the QMB that had responsibility for working on the process. [Ref. 2:p. 2-35]

A PAT's basic operational roles and functions could involve:

- Plan and implement continuous improvements.
- Provide communication linkage between workers and the QMB.
- Collect data, make assessments, and exchange ideas.
- Analyze and direct problem solving to develop appropriate and optimal solutions to problems.
- Recommend quality improvement initiatives, opportunities, and strategies.
- Work as a team to establish TQL and a quality culture. [Ref. 24:p. 156]

(4) Linking for Communication. Communication could come in many forms (verbal, written, and non-verbal): organization-wide meetings, training classes, department meetings, newsletters, distribution of all minutes, actions of management, and commitment of the ESC. In TQL style, leaders explained how and

why decisions were made. They were receptive to suggestions and reactive with immediate feedback. [Ref. 24:p. 156]

A linking role was a necessary part of the team structure. This reflected concern for: (a) ensuring a two-way flow of information between higher-level and lower-level teams, (b) reducing fear, (c) ensuring that responsibility for reducing variation due to the system or local problems is properly identified, and (d) preserving the chain of command and formal accountability. To accomplish this function, the teams were linked vertically for systematic communication and decision making in carrying out the defined objectives for process improvement. Two links were needed – the downward link and the upward link. Each linking function was carried out by a separate person and has its own specific duties. [Ref. 2:p. 2-37]

The downward link was a member of the ESC when linking to a QMB or a member of a higher-level QMB when linking to a lower-level QMB or a PAT. The downward link attended all lower-level team meetings as a nonvoting member of the lower-level QMB or PAT. [Ref. 2:p. 2-38]

The downward link's basic roles included:

- Explain the charter.
- Interpret the limits of the responsibility.
- Communicate to prevent suboptimization of the system.
- Provide resources.
- Identify and remove impediments. [Ref. 2:p. 2-38]

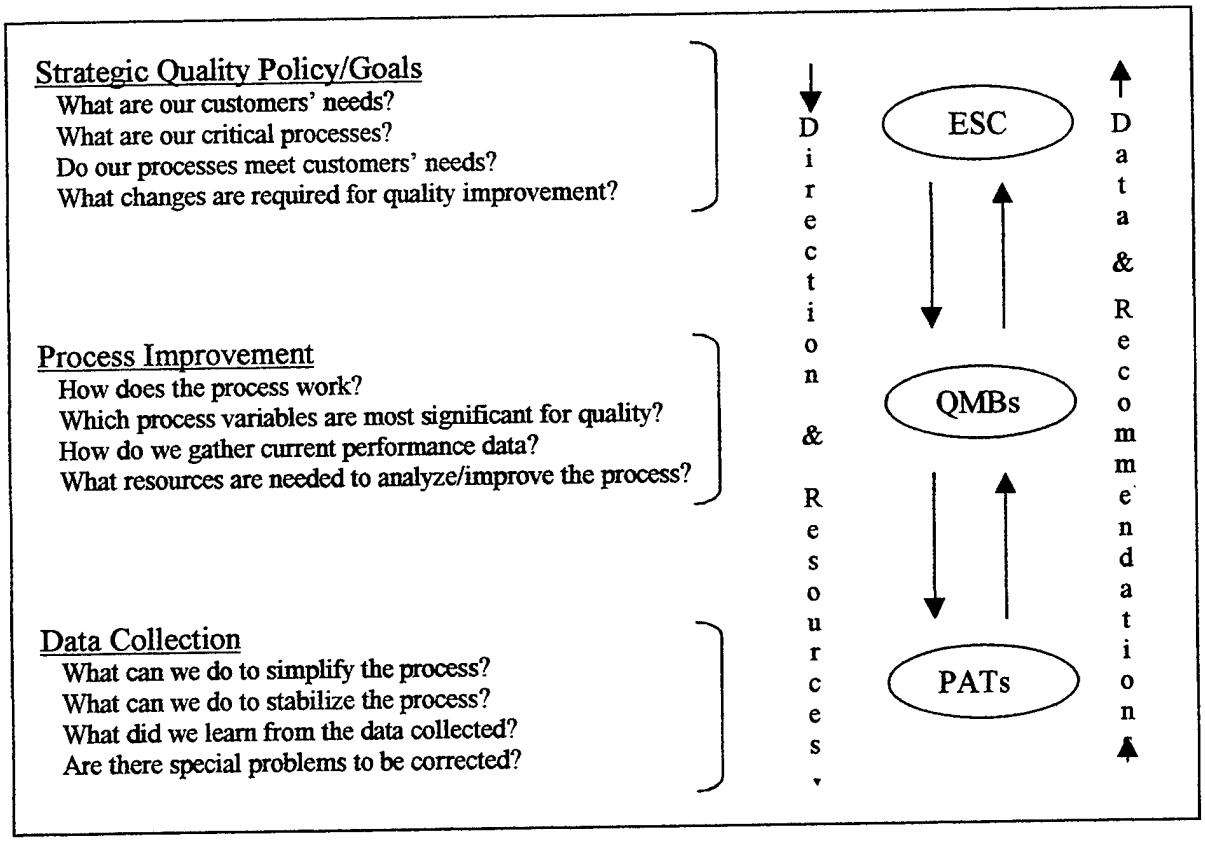

Figure 2.7. An Integrated Quality Improvement Team Structure [Ref. 2:p. 2-43]

The upward link to the next higher-level team was the QMB or PAT team leader. The upward link's basic roles involved:

- Conduct team meetings.
- Facilitate team functioning.
- Practice leadership.
- Report results within the charter.

The upward link also could participate in some meetings of the higher-level team. All team leaders were upward links to the teams above them. This feature preserved the hierarchical nature of the formal organization and respects the chain of the command. This new structure for quality improvement focused on better

communication horizontally and vertically, teamwork, and measurement and action on systems, processes, products and services. [Ref. 2:p. 2-42]

Figure 2.7 indicates the integration of the three types of teams, the issues they looked at, and the types of questions they asked. The down arrows indicate the downward flow of "Direction and Resources" from the top to the bottom of the organization. The up arrows indicate the upward flow of "Data and Recommendations" from the bottom to the top of the organization. The inner arrows represent the downward and upward links.

(5) TQL Support Positions. Besides the quality improvement teams, the organization needed a few other positions to support TQL. In the near term, as the organization implemented total quality, it would need a TQL coordinator and quality advisors. Depending on the size of the organization, some commands could establish a TQL support office to include these positions. Down the road, an organization could also need a professional statistician. [Ref. 2:p. 2-45]

- **TQL coordinator** – The TQL coordinator reported directly to the organization's leader/commander and managed a TQL support office. The coordinator had responsibilities for technical support, training, documentation, and providing and maintaining a library of TQL related materials. It was important that the individual selected for this position was respected by the top leader and others within the organization, communicated easily, and was a good "team player. He should have had a sound background in TQL and statistics.

- **Quality advisors** – Quality advisors provided TQL training to the various teams as necessary. They also helped teams by providing technical guidance in data collection and interpretation. If required, they worked with the team leaders to facilitate team functioning until the teams were operating smoothly. Quality advisors should have received TQL training.

- **Statistician** – A statistician could be required to help perform organizational analysis, conducted statistical quality analyses, provided statistical training and technical advice, and helped with off-line experiments and test design to improve the process further. [Ref. 2:p. 2-45]

3. Lessons Learned From TQL Implementation in the Fleet

a. Findings

- The leadership style of the Commanding Officer (CO) and the culture of the organization had a great impact on successful initiation of TQL practices.
- There were no essential differences between operational units and shore support commands with regard to requirements for TQL education, training, and implementation.
- There were differences between operational units and shore support commands with regard to the conduct of TQL education, training, and implementation. [Ref. 30:p. 54]

b. Lessons Learned

(1) How did leadership style of the top leader affect TQL training and implementation?

An organization's readiness for changes was commanding officer (CO) dependent. Continued progress in TQL was dependent on the commitment of the new CO. (This referred to personnel rotation issues. Deming's mobility of management disease.) Positive feedback from the CO and ESC reinforced a unit's commitment to TQL. The atmosphere set by the CO influences team functioning. Receptivity to change generally increased as the work experience of the CO increases. [Ref. 30:p. 55]

(2) What was the influence of the Navy culture on TQL training and implementation?

Top leaders should have understood that change was neither quick nor easy. People were reluctant to try new things because they were afraid of making mistakes. Reduction of fear was necessary to create a climate of trust and cooperation where system optimization could occur. Units needed to understand the influence of the Navy culture for change before starting process improvement. Operational pressures affected the focus that Fleet units brought to TQL training and implementation. Military job rotation had a negative effect on productivity and maintaining constancy of purpose. Ranking of personnel undermined cooperation and team effort. The "use or lose" practice of managing resources encouraged wastefulness. [Ref. 30:p. 55]

(3) What was the influence of TQL on the Navy culture?

Working in teams was not new in the Navy; what was new was how the teams interact. TQL shifted negative attention from the individual to the system. Documenting the steps of the process could help new people new begin to work efficiently and effectively. [Ref. 30:p. 56]

(4) What were requirements for TQL education and training and how were TQL, education and training conducted in the Fleet?

When initial training was spread out over too long a period, learning was compromised. TQL theory could be taught in large groups, a savings of time and money. Team building skill training should have been conducted with people who would work together. TQL education and training could be laid out in different ways to meet operational schedules. Training opportunities varied from platform to platform. Both

military and generic TQL examples had value. The ESC should have addressed training of new team members as well as refresher training. [Ref. 30:p. 56]

(5) What were requirements for TQL implementation and how was implementation conducted in the Fleet?

Selection of an appropriate TQL coordinator was critical to an organization's progress. ESC should have set boundaries for QMBs; QMBs should have set boundaries for PATs. Charters helped teams in planning and conducting process improvement. The ESC could need to prioritize goals. Early implementation efforts should have focused on process improvement rather than strategic planning. Documented improvements were more likely to be sustained as team membership changes. Ideas for initial process improvement efforts could come from all levels of an organization. The same person should not have served as the upward and downward link because of a possible filtering of information. Team structure and membership should have been tailored to the size and complexity of a command. Because of time constraints, team meetings needed to be well planned and executed. Process improvement teams should have considered inviting the customers to participate in team meetings. Facilitation skills could always be needed because of changes in team membership and the military rotation policy. ESC's should have been alert to the impact of process improvements on the organization to avoid suboptimization. [Ref. 30:p. 56]

F. TQL IN TURKISH ARMY ACADEMY

1. Starting Point

TQL implementation has been conducted under the "Academy 2000" project. [Ref. 12:p. 31] TQL implementation was applicable to all units at the Academy and its respective personnel. The purposes of the TQL implementation in the Academy are shown below:

- To make all the personnel adopt the TQL as general management principles,
- To implement TQL successfully and perpetually,
- To provide "academic steering" to Turkish Army as leading the TQL implementations in the Army. [Ref. 12:p. 31]

In agreement with TQL activities, the plans consisted of the actions for:

1. Determination of mission,
2. Determination of customers and customer needs,
3. Determination of vision,
4. Determination of objectives,
5. Determination of critical process and benchmarking criteria,
6. Development of strategic planning process,
7. Preparation of annual plans,
8. Determination of change strategies,
9. Establishment of annual review and evaluation system. [Ref. 12:p. 13]

2. Mission of the Army Academy

The mission of the Turkish Army Academy is to train officers to work as leader/commander staff in land forces having scientific capability, moral quality and physical ability. The four-year period of academic schedule provides officer candidates with required scientific basis and it aims to prepare them for graduate education. The

Army Academy furnishes the cadet with basic military qualities, ultimate characteristic features and perfect physical performance through Military Training and Combat Physical Training schedules. The Army Academy has also been training infantry officers for the Navy, engineer officers for the Air Force and gendarme officers for the Gendarme Command with the same qualities and capabilities. [Ref. 37:p. 1]

The Army Academy is assigned to educate and train officers for the Army so that each graduate will possess the essential attributes to fulfill successfully the tactical, technical and administrative activities. The Academy offers a collegiate education, a Bachelor of Science degree and also provides the cadets with a deep sense of discipline, dynamism of Ataturk's principles, physical competence and general culture as well as a variety of other attributes and traits necessary for the military cadet.

The Academy objectives, which is entrusted the responsibility of training the military leaders, who will then take up duties in the country's defense are shown below:

- To provide its graduates with the leadership qualifications required for military service, a whole character furnished with competence of educating and training, and promote them spiritually, intellectually and physically,
- To provide them with knowledge in military, technical, social and basic sciences that they act a teaching role in the development of the Armed Forces by making scientific studies and researches in subsequent military areas or other fields to meet the needs of the Army,
- To provide them with a firm foundation as to take up post graduate education and carry out their succeeding assignments in the service. To secure that they gain attributes and abilities to observe and conceive the national and international problems in the light of Ataturk's principles,
- To endow necessary military techniques and tactics as to practice them adequately, deep sense of duty and responsibility, strong temperance to come over the problems, their challenging profession, and a supreme degree physical fitness and competence,
- And finally, to graduate them as commissioned officers for the Army. [Ref. 31:p. 1]

3. Traditional Organization Structure

The subdivisions of the Army Academy and their missions are briefly explained below:

Headquarters of Command

As described in the law, the mission of the Academy assumes the planning, organization, command and coordination activities. Academy Headquarters coordinates with its detachments for the supports of the academy, searches and supplies the needs of the academy, makes plans on manpower, manages the academic training and education, and takes necessary actions with the intention of offering the cadets a collegiate education in line with the latest technology and to provide them with the best opportunities. [Ref. 31:p. 1]

Directorate of Academics

The Directorate of Academics plans the education system of the Army Academy and puts it into practice with the approval of the superintendent. The Directorate of Academics prepares the scope of the academics, assigns instructors to the classes, makes studies and proposals aimed at promoting the academic system in accord with the needs of the Armed Forces and developing technology, evaluates the cadets' academic performance and takes measures to reach the target standards and educate the cadets in the best way for graduation. [Ref. 31:p. 1]

Cadet Regimental Command

The Cadet Regimental Command provides the cadets with a high sense of discipline and ultimate character, offers military training at platoon leader level, secures a suitable environment and necessary living conditions for the cadets, and fulfills the other administrative activities. [Ref. 31:p. 2]

Command of Cadets in Universities

The Command of Cadets in Universities provides the cadets attending the civilian universities with suitable living conditions as to secure that they acquire and practice a sound discipline and education, and conducts the administrative activities. [Ref. 31:p. 2]

Equestrian Sports Training Command

The Equestrian Sports Training Command meets the horsemen need of the Armed Forces, participates in the competitions as the representative of the Army, takes part in military parades, and trains horses through scheduled courses. [Ref. 31:p. 2]

Supporting Units Command

The Supporting Units Command is assigned to provide support, service and maintenance in the Academy campus, so that the cadets can live in convenience. [Ref. 31:p. 2]

4. The Quality Improvement Team Structure

Command of Cadets in Universities and Equestrian Sports Training Command are not considered a part of the quality improvement team structure at the Academy.

An in-depth discussion of the structure and responsibilities of the Executive Steering Committee (ESC), Quality Management Boards (QMBs), and Process Action Teams (PATs) were discussed in the previous section.

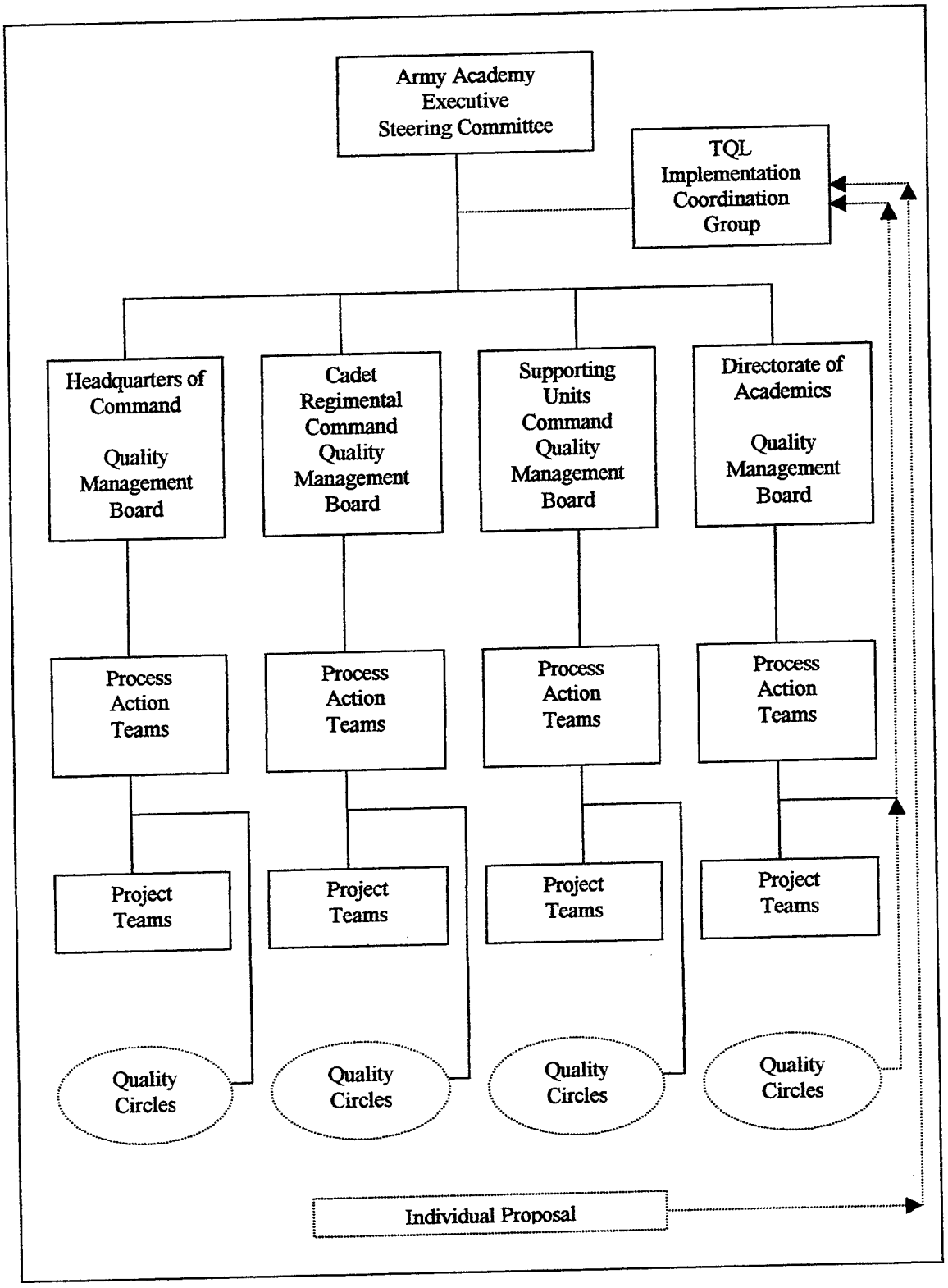

Figure 2.8. The Quality Improvement Team Structure of the Academy [Ref. 12:p. 34]

At the Army Academy Quality Circles were assessed as the most important tools for the TQL implementation. There are five to ten employees in a Quality Circle. The characteristics of those employees in those Quality Circles normally are:

- Work in the same unit,
- Do the similar jobs,
- Meet periodically,
- Detect problems, and solve those problems at the operational level,
- Are volunteer participants. [Ref. 12:p. 18]

Another mechanism in the TQL implementation of the academy is the "Individual Proposal System." The main difference of the individual proposal system from the Quality Circles is its "individualistic study" character. The employee may prefer the individual proposal system due to his or her reluctance to participate in the collective study. [Ref. 12:p. 18]

Appendix F contains the "Individual Proposal Form" and Appendix G contains the "Proposal Evaluation Form" used for quality improvement in the Academy.

5. Current Activities Regarding TQL Implementation

a. In order to develop TQL studies to be effective and coordinated, a TQL organization was set up. The authority and responsibilities of the units and the personnel in those units were determined.

b. The definitions of the terms regarding TQL, the Army Academy's quality policy, customer, mission, and vision definitions were made.

c. To obtain an ISO-9001 certificate, the first phase of the TQL implementation, the preparations were completed and officially acted upon.

d. Since "resistance to change" has been evaluated as a significant problem, TQL education and training has been emphasized. To do this, the Army Academy contacted several companies regarding TQL training.

e. With the purpose of the information transfer on the TQL training, several meetings were held with a consulting firm, a subsidiary of Koc holding,

and with Ankara Quality Association. As a result of those meetings, the Army Academy contracted with those organizations. According to the contracts, the two organizations would provide TQL training on important issues for the Army Academy personnel.

f. In order to educate and inform Academy personnel on TQL, communication has been considered important. To make communication more effective, these preparations have been completed, i.e.;

i. A TQL conference for all officers, non-commissioned officers and cadets was held.

ii. A two-day "TQL within-the-Service Seminar" was held. The participants were the representatives of several companies who have expertise on TQL implementation.

iii. Adequate TQL handbooks, "Quality Circles" handbooks, and TQL brochures were published and distributed to the personnel.

iv. TQL publications of the Quality Association and TQL books were supplied for the Academy library.

v. With the purpose of informing the personnel on TQL, many topics such as "Learning organizations," "Quality circles," "Variable collection techniques," "Variable collection forms and graphics," "Brainstorming," "Teamwork," etc. were recorded on videotapes via close-circuit Cadet TV network. Those records have been shown on Cadet TV periodically.

v. Teletext broadcasting system for TQL has been researched.

vi. TQL communication boards were placed on the walls of all the units. Those boards have been used for information sharing on TQL activities and developments among the units.

vii. In order to educate personnel about TQL, 27 wall posters were prepared.

g. In order to coordinate the TQL implementations of the units and to plan TQL training assignments, a "TQL Coordination Center" was set up in the department of the Directorate of Academics.

h. With the purpose of observation and experience, the Army Academy managers visited Arcelik Dishwasher Factory on February 2, 1998. [Ref. 12:p. 31]

6. Planned Activities for TQL Implementation

Besides the current activities regarding TQL implementation at the Academy, some activities were planned to make the TQL implementation more effective:

- It was planned that various companies would provide TQL training for the Academy.
- It was aimed that the trained personnel on TQL would train the academy employees. So, training program within the Academy would be prepared.
- With the purpose of making observation and gaining experience for the Academy managers, trips were planned not only to the other Turkish military organizations but also to the private sector companies, which implement TQL. [Ref. 12:p. 33]

G. SUMMARY

Quality is multi-faceted. Crosby defined quality as conformance to requirements. There are five major approaches to defining quality. Those approaches are (1) the transcendent approach, (2) the product-based approach, (3) the user-based approach, (4) the manufacturing-based approach, and (5) the value-based approach. According to Deming, distinction in service at reduced cost should be the key objective of the government service.

Quality control has evolved over the last two centuries, which can be categorized into four eras. Those eras are (1) the Inspection Era, (2) the Statistical Quality Control (SQC) Era, (3) the Quality Assurance (QA) Era, and (4) the Strategic Quality Management Era.

The DoN defined the TQL as follows: TQL is the application of quantitative methods and knowledge of people to assess and improve (a) materials and services supplied to the organization, (b) all significant processes within the organization, and (c) meeting the needs of the end-user, now and in the future.

The Deming approach to quality management is made up of three elements: "The system of profound knowledge," "Deming's Fourteen Points," and "The Plan-Do-Check-Act (PDCA) cycle and process improvement tools." The system of profound knowledge

is the intersection of systems theory, variation, psychology, and theory of knowledge. The fourteen points can be applied to all organizations. The fourteen points are ways to put the system of profound knowledge into practice. The Plan-Do-Check-Act (PDCA) cycle is a four-step, never-ending process for solving problems and making decisions.

During peacetime, the traditional organizational approach of the DoN creates some problems. In order to fix those problems, the DoN developed two-phased TQL implementation approach. The first phase was the delegation of responsibilities for process management to field activities and the establishment of the critical mass. The second phase was the delegation of headquarters' responsibilities for strategic change. Education and training was emphasized. The critical mass was considered as the catalyst required to begin the change. The quality improvement teams offered a solution to the problems of the traditional organizational structure. This team approach complemented the traditional organizational structure by increasing the interaction and cooperation between departments. The teams were linked vertically. Besides the quality improvement team structure, the organization needed a few other positions such as a TQL coordinator to support TQL. There are many lessons learned from TQL implementation in the Fleet. The leadership style of the commanding officer (CO) and the culture of the organization have a great impact on TQL practices.

A parallel to the establishment of TQL Executive Steering Committee (ESC) in Turkish General Staff in the beginning of 1997, TQL activities also were begun in Turkish Army Academy. The mission of the Army Academy is to train officers to work as leader/commander staff in land forces having scientific capability, moral quality and physical ability. Traditional organization structure contains: (a) Headquarters of

Command, (b) Directorate of Academics, (c) Cadet Regimental Command, (d) Command of Cadets in Universities, (e) Equestrian Sports Training Command, and (f) Supporting Units Command. The quality improvement team structure of the Academy contains: (a) Executive Steering Committee (ESC), (b) Quality Management Boards (QMB), (c) Process Action Teams (PAT), (d) Project Teams, (e) Quality Circles, and (f) TQL Implementation Coordination Group. Many activities have been performed regarding TQL implementation and several activities were planned with reference to TQL implementation.

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III. METHODOLOGY

A. THE TURKISH ARMY ACADEMY

The Turkish Army Academy is located at Bakanliklar/Ankara. The current number of the cadets is approximately 3,700. Cadets attend the Academy for four years and are nominated for the military branches upon completion of their third year. Those who complete the four-year academic program are commissioned as Second Lieutenants. Upon graduation, they earn a Bachelor of Science (BS) diploma in Systems Engineering. Exchange Cadets from the Navy (marine and engineer) and the Air Force (engineer) join their respective services after graduation. Within the academic program, as practiced under the supervision of the academic board, there are the curricula of basic sciences, social sciences, military sciences, and systems sciences. Military training is the responsibility of the Cadets Regiment Commandant and is carried out in the training fields of the campus during the academic year. Summer training is conducted in summer camp at Mentes, Izmir/Turkey. [Ref. 31:p. 3]

B. PARTICIPANTS

The Total Quality Leadership Climate Survey (TQLCS) was administered to 40 Army officers and instructor officers at the Turkish Army Academy. The participants of the TQLCS were randomly selected by the Headquarters of Command, Directorate of Academics, Cadet Regimental Command, and Supporting Units Command of the Army Academy. Participants were not representative of any particular unit. Ages of the participants varied from 23 to 50. The respondents were assured of the confidentiality of

their responses. After the TQLCS was administered, the TQL coordinator sent the results to the researcher.

After the TQLCS was administered and analyzed, the researcher developed 10 interview questions. The TQL coordinator at the Turkish Army Academy conducted the interviews in Turkish with ten officers, who were familiar with the TQL implementation process of the Academy. The interviewees included instructor officers of TQL training and instructors in the Directorate of Academics.

C. RESEARCH DESIGN

The objective and the research questions of the thesis were discussed in Chapter I. The principal objective of this study is to describe and assess the current implementation status of TQL philosophy in Turkish Army Academy. The research design is depicted in Figure 3.1.

Research questions are the starting point of the research design. To find out the current implementation status of TQL philosophy and the answers of the subsidiary research questions, the researcher gathered data using a survey and interviews. The survey (see Appendix A in Turkish, Appendix B in English), and the interviews (see Appendix D in Turkish, Appendix E in English) were conducted by the Academy's TQL coordinator in the Turkish language.

TQLCS was administered to the 40 officers in November 1999. The TQL coordinator sent the survey results directly to the researcher for analysis via e-mail on November 23, 1999. The data were analyzed using descriptive statistics.

Subsequently, interviews were conducted with ten officers. The TQL coordinator returned the raw results to the researcher. Results were grouped to determine common themes.

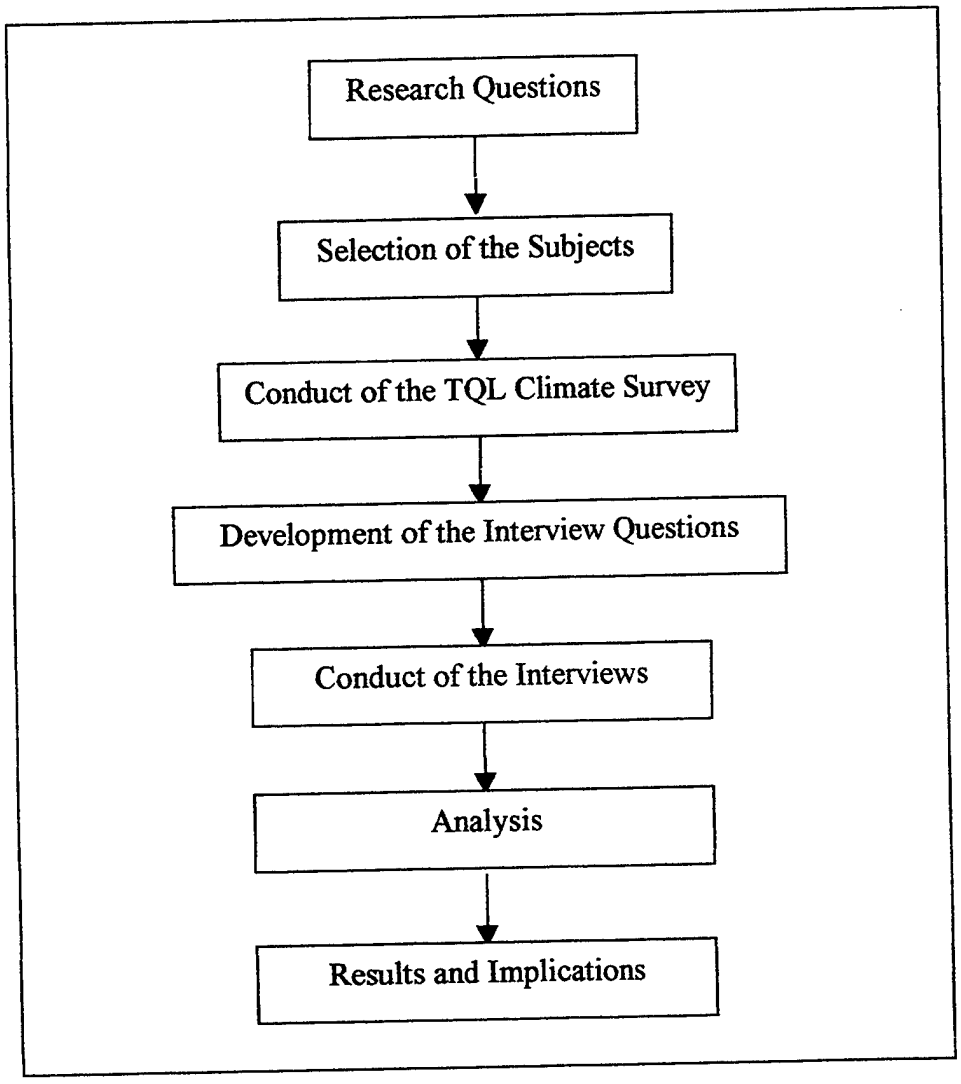

Figure 3.1. Research Design

D. RESEARCH INSTRUMENTS

1. TQL Climate Survey (TQLCS)

The TQL Climate Survey (TQLCS) was a diagnostic tool designed to support an organization's transformation toward TQL implementation. The survey measures individual employee perceptions and attitudes about the organization. It is thought that all organizations undergoing the TQL transformation can benefit from using TQLCS. For example, measurement of personnel perceptions and attitudes can help the transformation by indicating organizational change accomplishments and possible issues resulting from TQL efforts.

The Total Quality Leadership Climate Survey (TQLCS), prepared by the Navy Personnel Research and Development Center, contains 77 questions. The researcher modified the TQLCS (i.e., some parts were omitted in the TQLCS, since those parts were relevant only to the TQL courses in the US Navy). Then, the researcher translated the modified TQLCS into the Turkish language. The modified Turkish TQLCS, which contained 66 questions, was sent to the TQL coordinator at the Turkish Army Academy via e-mail (see Appendix A). The TQL officer was given instructions for administering the survey.

The survey responses were considered confidential. Written instructions and a definition of terms were provided to the respondents (see Appendix A). Terms such as "external suppliers," "external customers," "internal suppliers," "internal customers of the academy" were explained in detail for the respondents (i.e., "external suppliers of the academy" are usually military high schools and civilian high schools).

The 66 question modified TQLCS was divided into 17 sub-categories. Every sub-category included three to five questions. The sub-categories are:

1. Leadership involvement in quality performance,
2. TQL planning,
3. External customer orientation,
4. Internal customer orientation,
5. External supplier quality,
6. Internal supplier orientation,
7. Process management,
8. Barriers to pride in workmanship,
9. Inter-group cooperation,
10. Barriers between departments,
11. Knowledge of TQL,
12. Employee participation in TQL activities,
13. Commitment to TQL,
14. Perceived benefits of implementing TQL,
15. Fear of implementing TQL,
16. Leadership support for TQL,
17. Anticipated TQL success.

The questions were asked in a positive way; that is, the "Very Large Extent" option meant the strongest positive agreement to the question on TQL implementation. To make a numerical analysis, the options were associated with a Likert numerical scale of "1" to "5", and with "0" being "Don't Know."

2. Interviews

Using the TQLCS data, the researcher developed 10 interview questions addressing the less familiar sections of the TQL philosophy. The TQL coordinator was instructed about the scope of the research and interview protocol. The purpose of the

interview protocol was to obtain further information about the less adopted parts of the TQL philosophy. All of the interview questions were open-ended (see Appendix D). According to the interview protocol, ten interviewees were selected depending on their level of expertise in the TQL implementation process of the Academy. The interviews contained the following topics:

(1) The incorporation of the TQL program to the strategic plan of the Academy,
(2) The compatibility of the TQL program and the Academy strategy,
(3) Main barriers to implementing a TQL program,
(4) Elimination of the barriers,
(5) Education and training courses,
(6) Use of the process improvement tools,
(7) Increasing senior leadership support for TQL,
(8) Benefits perceived in implementing TQL,
(9) Other leadership competencies supportive of implementing TQL,
(10) Recommendations.

E. METHOD OF ANALYSIS

Responses to the TQLCS were analyzed using descriptive statistical measures. The statistical mean values and standard deviations of the responses were obtained.

The responses to the interview questions were analyzed by identifying opinions on the specific topic. In other words, the responses were grouped to determine if there was any themes or common categories of responses.

IV. IMPLEMENTATION OF TOTAL QUALITY LEADERSHIP IN THE TURKISH ARMY ACADEMY

This chapter presents the implementation status of TQL in the Turkish Army Academy. Section A provides the analysis of the major factors in the TQL Climate Survey (TQLCS). Section B discusses the analysis of responses to the individual TQLCS questions. Section C contains the interview results. Section D provides a summary.

A. ANALYSIS OF THE RESPONSES TO THE TOTAL QUALITY LEADERSHIP CLIMATE SURVEY (TQLCS) SUBSECTIONS

The Total Quality Leadership Climate Survey (TQLCS) contained 17 subsections. Each subsection included three to five questions. Data for the sixteen subsections that required a 1-5 scaled response is presented in Table 4.1. The data include the percentage of respondents who answered positively (marked either "5" or "4") or negatively (marked either "1" or "2") to the survey question. The 16 subsections (factors) are presented in rank order, beginning with the factor that participants rated most positive. The subsection, "Employee Participation in TQL Activities," is not included in this table because it simply required a "Yes" or "No" response.

The philosophy of TQL would suggest positive responses to all of the subsections except two: Barriers to Pride in the Workmanship and Fear of Implementing TQL. For these two subsections one would expect the respondents to answer "Small Extent" or "Not At All" if things were working well. In all of the remaining subsections one might expect respondents to answer "Large Extent" or "Very Large Extent" if TQL were operating well.

Table 4.1. TQLCS Subsections and Percent of Responses

RANK ORDER	TOTAL QUALITY LEADERSHIP CLIMATE SURVEY (TQLCS) SUB-SECTIONS	% RESPONDENTS LARGE EXTENT AND VERY LARGE EXTENT	% RESPONDENTS SMALL EXTENT AND NOT AT ALL
1	Barriers to Pride in Workmanship	64%	19%
2	Internal Customer Orientation	46%	17%
3	Anticipated TQL success	44%	25%
4	TQL Planning	42%	27%
5	Internal Supplier Orientation	40%	29%
6	Commitment to TQL	39%	27%
7	External Supplier Quality	36%	32%
8	External Customer Orientation	31%	39%
9	Fear of Implementing TQL	30%	36%
10	Process Management	30%	46%
11	Leadership Involvement in Quality Performance	23%	35%
12	Perceived Benefits of Implementing TQL	23%	39%
13	Leadership Support for TQL	22%	49%
14	Inter-group cooperation	20%	42%
15	Knowledge of TQL	20%	52%
16	Barriers Between Departments	18%	51%

Among the 16 subsections (factors), the participants responded most strongly to the questions dealing with "Barriers to Pride in Workmanship." Sixty four percent of the respondents answered that to a "Large Extent" or a "Very Large Extent" there are barriers

to achieving pride in their work at the Turkish Army Academy. Only 19 percent of the participants responded that barriers exist to a "Small Extent" or "Not At All." It is possible that Academy personnel perceive that there are barriers to pride in their work for various reasons. The current performance appraisal system, subjective evaluations of the personnel, poor job materials, excessive workload, low income, unpleasant working environment may be some barriers to pride in workmanship.

"Internal Customer Orientation" had the second highest positive responses (46%). At the Academy, internal customers could be students or instructors. For instance, Freshman Math instructors might consider Sophomore Math instructors their internal customers. In an academic setting it makes sense that instructors would confer with instructors of follow-on courses. Understanding upper class requirements would be useful for the consistency of education and training activities.

"Anticipated TQL Success," "TQL Planning," and "Commitment to TQL" ranked third, fourth and sixth, 44%, 42%, and 39%. Thus, less than half of the survey respondents believe that TQL will be successful, that TQL planning is adequate, or that the Academy is committed to TQL.

Among the subsections that ranked lowest were "Leadership Involvement in Quality Performance" (23%), "Perceived Benefits of Implementing TQL" (23%), and "Leadership Support for TQL" (22%). The responses to these three subsections seem to indicate that leadership is not highly involved or supportive of TQL. In addition, many do not see the benefits of implementing TQL at the Academy.

Other subsections that ranked low included Inter-group Cooperation (20%), Barriers Between Departments (18%), and Knowledge of TQL (20%).

B. ANALYSIS OF THE TOTAL QUALITY LEADERSHIP CLIMATE SURVEY (TQLCS) RESULTS

The Total Quality Leadership Climate Survey (TQLCS) contained 66 questions. Each question used a numerical scale: (a) "1 = Not At All," (b) "2 = Small Extent," (c) "3 = Some Extent," (d) "4 = Large Extent," (e) "5 = Very Large Extent," (f) "0 = Don't Know. The mean and standard deviation (St. dev.) of the responses were computed using descriptive statistical measures. The "Don't Know" responses were not included in the calculations of means, standard deviations, percentage of "Large Extent" and "Very Large Extent" responses, and percentage of "Not At All" and "Small Extent" responses. Appendix A contains the Turkish version of the TQLCS. The English version of TQLCS is presented in Appendix B.

1. Leadership Involvement in Quality Performance

Survey questions 1-3 asked respondents to rate the degree to which they believe leadership at the Turkish Army Academy are involved in quality performance. Table 4.2 presents the average mean of questions 1-3 as well as the means for each individual question.

The respondents of this study perceive that senior leaders regularly review the quality of work at the Academy (43% responded positively). However, senior leaders are not seen as strongly committed to providing top quality cadets. In addition, senior leaders are not perceived as setting examples of quality performance.

Table 4.2. Leadership Involvement in Quality Performance

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
1. Commitment of the senior leaders to providing top quality products or services	40	2.833	0.979	22%	31%
2. Senior leaders' regularly review the quality of the organization's work	40	3.2	1.079	43%	23%
3. Senior leaders' setting examples of quality performance	40	2.371	0.770	3%	51%
Average	40	2.801	1.003	23%	35%

Scale: 1 = Not At All, 5 = Very Large Extent

According to this study, leadership is not viewed as highly involved in quality performance. Various reasons might account for this perception. The senior leaders may have other priorities, or they may not have enough time to deal with quality performance.

2. TQL Planning

Survey participants seemed to agree that the Academy has a long-term quality focus, but the TQL program has not been integrated into the overall Academy strategy. Moreover, the respondents believe that TQL activities are not consistent with the long-term goals of the Academy. Most see quality improvement as just another organizational program. Table 4.2 presents the average mean of questions 4-7 as well as the means for each individual question.

Table 4.3. TQL Planning

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
4. Long-term quality focus of the organization	40	3.459	1.016	54%	19%
5. Seeing quality improvement as just another organizational program	40	4.077	1.061	79%	8%
6. Incorporation of the TQL into the overall organization strategy	40	2.825	1.059	25%	43%
7. Consistency of TQL activities with the long-term goals of the organization	40	2.684	0.842	11%	37%
Average	40	3.261	1.136	42%	27%

Scale: 1= Not At All, 5= Very Large Extent

The fifth question, "Seeing quality improvement as just another organizational program", is a negative question, which inflates the average for this subsection.

3. External Customer Orientation

The "external customer" is an individual or group outside the producing organization who receives or uses the output of a process (product or service). External customers of the Academy are the military occupation schools such as the artillery school or the air defense school. Table 4.4 presents the average mean of questions 8-11 as well as the means for each individual question.

Table 4.4. External Customer Orientation

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
8. Understanding the needs of the organization's external customers	40	3.138	1.125	38%	24%
9. Organization's focus on meeting the needs of external customers	40	2.686	1.132	26%	49%
10. Management's plan ahead for changes in external customer requirements	40	2.882	1.122	38%	41%
11. Identification of the external customers by management	40	2.666	1.080	21%	39%
Average	40	2.843	1.117	31%	39%

Scale: 1= Not At All, 5= Very Large Extent

The positive responses to questions 8-11 ranged from 21% to 38%. Thirty eight percent of the respondents say they understand the needs of the military occupation schools, but fewer (26%) believe they focus on meeting the needs of military occupation schools. Because the purpose of the Academy is to educate and train cadets for a life-long career, perhaps the Academy cannot educate the cadets only for the requirements of the military occupational schools.

4. Internal Customer Orientation

The "internal customer" is an individual or group inside the producing organization who receives or uses the output of a process (product or service). For instance, the senior class is the internal customer of the junior class. Table 4.5 presents the average mean of questions 12-15 as well as the means for each individual question.

Table 4.5. Internal Customer Orientation

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
12. Understanding the needs of internal customers	40	3.325	0.944	43%	18%
13. Meeting the needs of internal customers	40	3.205	0.978	44%	23%
14. Planning ahead for changes in internal customer requirements	40	3.189	1.076	46%	22%
15. Knowing who internal customers are	40	3.55	0.714	53%	5%
Average	40	3.317	0.937	46%	17%

Scale: 1= Not At All, 5= Very Large Extent

Respondents seem to know their internal customers. They tend to understand the needs of the internal customers, and they try to meet those needs. Additionally, they plan ahead for changes in the internal customer requirements.

The internal customer orientation is consistent with an academic institution. For example, one might expect that an instructor of the junior class would be aware of and understand the requirements of follow-on senior classes.

5. External Supplier Quality

The "external supplier" is an individual or group outside the organization that provides materials, products, information or services to an individual or group within the organization. External suppliers of the Academy are military high schools and civilian high schools. Table 4.6 presents the average mean of questions 16-19 as well as the means for each individual question.

Table 4.6. External Supplier Quality

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
16. Actively monitoring the quality of external suppliers by management	40	3.605	0.887	58%	8%
17. Definition of the quality requirements that external suppliers must meet	40	3.175	1.107	43%	28%
18. Communication of the organization's quality requirements to external suppliers	40	2.576	1.062	15%	48%
19. Working toward using fewer external suppliers	40	2.36	1.319	20%	56%
Average	40	2.929	1.174	36%	32%

Scale: 1= Not At All, 5= Very Large Extent

The respondents agree that the Academy management actively monitors the quality of cadet nominees. The Academy management has defined the quality requirements that military and civilian high schools must meet. The cadet standards such as physical competence, general culture and other attributes and traits are clearly defined. Each cadet nominee should meet those standards before attending the Academy. On the other hand, the respondents do not believe that Academy management communicates the Academy's quality requirements to military and civilian high schools and does not work toward using fewer civilian and military high schools. It may be that the Academy management does not need to communicate its quality requirements to high schools. Each standard that a cadet nominee must meet is clearly defined during admittance. Working toward using fewer civilian and military high schools does not seem to be an appropriate goal for the Academy.

6. Internal Supplier Orientation

The "internal supplier" is an individual or group within the organization (department/division/office) that provides input to another individual or group within the organization. Internal suppliers of the Academy are the different year groups.

For respondents, the quality of different year groups is monitored at the Academy. Quality requirements have been defined and communicated to those different year groups. On the other hand, respondents believe that their quality requirements are not being met by different year groups.

Similar to internal customer orientation, internal supplier orientation of the Academy has been adopted. It appears that cadets know what kind of quality requirements they must meet. Those quality requirements are clear. However, the

personnel are not pleased with the cadets' performance. Cadets have a lot of activities in the Academy. These excessive activities may lower performance in an individual activity. Each instructor or company commander may want the cadets to meet their requirements at an outstanding level, but the cadets may be overwhelmed and constrained by too many activities. Table 4.7 presents the average mean of questions 20-23 as well as the means for each individual question.

Table 4.7. Internal Supplier Orientation

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
20. Monitoring the quality of internal suppliers' products or services	40	3.821	0.823	67%	5%
21. Defining quality requirements for internal suppliers	40	3.063	1.076	38%	28%
22. Communicating quality requirements to internal suppliers	40	3.147	1.234	41%	29%
23. Meeting of quality requirements by internal suppliers	40	2.412	1.048	12%	59%
Average	40	3.111	1.156	40%	29%

Scale: 1= Not At All, 5= Very Large Extent

7. Process Management

In spite of collecting data on work process, the respondents do not use the seven basic graphical tools (run chart; histogram; Pareto chart; flow diagram; cause and effect diagram; scatter diagram; control chart) to help improve processes. According to the

survey, they have not developed process measures, and their work teams do not apply process improvement methods to critical processes. Table 4.8 presents the average mean of questions 24-27 as well as the means for each individual question.

Table 4.8. Process Management

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
24. Using any of the seven basic graphical tools	40	2.105	1.181	13%	68%
25. Collecting data on work process	40	3.923	0.984	72%	8%
26. Developing process measures	40	2.432	1.042	14%	59%
27. Application of process improvement methods by work team	40	2.472	1.207	19%	50%
Average	40	2.733	1.307	30%	46%

Scale: 1= Not At All, 5= Very Large Extent

8. Barriers to Pride in Workmanship

Respondents think that there are barriers at the Academy that prevent them from taking pride in their work. Fifty eight percent of the respondents said that they are forced to use equipment or materials that produce poor-quality results. The performance appraisal system appears to create barriers to pride in workmanship. Forty six percent of the participants said they could not tell when they had done a good job. Table 4.9 presents the average mean of questions 28-31 as well as the means for each individual question.

Table 4.9. Barriers to Pride in Workmanship

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
28. Barriers that prevent from taking pride in work	40	3.7	1.091	83%	10%
29. Telling when you have done a good job	40	2.703	1.288	27%	46%
30. Being forced to use equipment or materials that will produce poor-quality results	40	3.632	1.239	58%	21%
31. Performance appraisal system's creation of barriers to pride in workmanship	40	4.436	0.912	85%	3%
Average	40	3.618	1.283	64%	19%

Scale: 1= Not At All, 5= Very Large Extent

9. Inter-group Cooperation

According to respondents, work teams in one department do not understand and work together to achieve one another's goals and objectives. Additionally, the participants believe that those work teams do not understand one another's problems and difficulties, and they do not get along with one another.

In an academic institution it is likely that individual faculty do not see themselves as members of a team. Academics tend to view themselves as autonomous and likely do

not see teamwork as a major focus. Table 4.10 presents the average mean of questions 32-35 as well as the means for each individual question.

Table 4.10. Inter-group Cooperation

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
32. Work teams' understanding of one another's goals and objectives	40	2.459	1.07	14%	54%
33. Work teams' working together to achieve one another's goals and objectives	40	2.842	1.128	26%	37%
34. Work teams' understanding one another's problems and difficulties	40	2.784	1.031	22%	38%
35. Work teams' getting along with one another	40	2.714	1.152	20%	40%
Average	40	2.7	1.094	20%	42%

Scale: 1= Not At All, 5= Very Large Extent

The high degree of specialization and autonomy, which is inherent in university settings may moderate the need for inter-group cooperation.

10. Barriers Between Departments

Similar to barriers among team members, there appear to be barriers between departments. People in one department do not understand and work with those in other departments to achieve one another's goals and objectives. Additionally, they do not

understand the problems and difficulties of other departments. Good relations between departments are at a low level. Table 4.11 presents the average mean of questions 36-39 as well as the means for each individual question.

Table 4.11. Barriers Between Departments

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
36. Understanding the goals and objectives of other departments	40	2.235	1.075	12%	62%
37. Working with people in other departments to achieve one another's goals and objectives	40	2.571	1.195	23%	49%
38. Understanding the problems and the difficulties of people in other departments	40	2.6	1.133	17%	43%
39. Good relations between different departments	40	2.514	1.216	19%	51%
Average	40	2.48	1.154	18%	51%

Scale: 1= Not At All, 5= Very Large Extent

It is possible that the people in one department are not interested in the activities of a different department. Different departments may have different objectives and assignments. For instance, the Directorate of Academics may have different objectives and assignments than the Supporting Units Command.

11. Knowledge of TQL

Most of the respondents are not familiar with basic TQL concepts. They do not understand TQL well enough to use it in their jobs and to improve work processes. Table 4.12 presents the average mean of questions 40-42 as well as the means for each individual question.

Table 4.12. Knowledge of TQL

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
40. Understanding basic TQL concepts	40	2.436	0.912	8%	51%
41. Understanding TQL well enough to use it in job	40	2.784	1.326	27%	51%
42. Understanding TQL well enough to improve work processes	40	2.763	1.283	26%	53%
Average	40	2.661	1.174	20%	52%

Scale: 1= Not At All, 5= Very Large Extent

12. Employee Participation in TQL Activities

An employee can serve in only one of the quality improvement teams. If a person serves as a member of a Process Action Team (PAT), he or she cannot serve as a member of the Executive Steering Committee (ESC). So, if a respondent served as a member of the Quality Management Board, he or she would probably respond "No" to other quality improvement team service questions.

It appears that most respondents serve as a member of one of the quality improvement teams. Table 4.13 presents results for questions 43-46.

Table 4.13. Employee Participation in TQL Activities

Question	N	Yes	No	Don't Know
43. Serving as a member of a Process Action Team	40	27.5%	62.5%	10%
44. Serving as a member of a Quality Management Board	40	35%	50%	15%
45. Serving as a member of the Executive Steering Committee	40	12.5%	82.5%	5%
46. Serving as a TQL team adviser/facilitator	40	22.5%	70%	7.5%

13. Commitment to TQL

Sixty six percent of the respondents stated that, although military management has a high desire to implement TQL, however, only 21% of respondents believe that the supervisors want to implement it. Table 4.14 presents the average mean of questions 40-42 as well as the means for each individual question.

Table 4.14. Commitment to TQL

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
47. Military management's desire to implement TQL	40	3.737	0.921	66%	8%
48. Your supervisor's desire to implement TQL	40	2.769	1.063	21%	41%
49. Your co-worker's desire to implement TQL	40	2.95	1.154	35%	35%
50. Your desire to implement TQL	40	3.225	1.230	38%	25%
Average	40	3.170	1.148	39%	27%

Scale: 1= Not At All, 5= Very Large Extent

14. Perceived Benefits of Implementing TQL

The next subsection asked the survey respondents about the perceived benefits of TQL. Answers to these questions were very consistent. Almost 40% of the respondents believe that there is little or no increase in productivity, improvement in quality, improvement in technical capabilities, or improvement in the organization's reputation due to TQL. Table 4.15 presents the average mean of questions 51-54 as well as the means for each individual question.

Table 4.15. Perceived Benefits of Implementing TQL

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
51. Increase of productivity by TQL	40	2.788	1.053	18%	39%
52. Improvement of quality by TQL	40	3	1.247	32%	38%
53. Improvement of technical capabilities by TQL	40	2.763	1.101	21%	39%
54. Improvement of the organization's reputation by TQL	40	2.788	1.053	18%	39%
Average	40	2.835	1.112	23%	39%

Scale: 1= Not At All, 5= Very Large Extent

15. Fear of Implementing TQL

Forty two percent of the respondents fear that changes may result from TQL implementation. Thirty eight percent fear that they may anger others if they use TQL methods. TQL introduces change in an organization, which may create fear for some personnel. Some may not want to change their daily job habits. These data suggest that some personnel are hesitant to use TQL methods. Table 4.16 presents the average mean of questions 55-58 as well as the means for each individual question.

Table 4.16. Fear of Implementing TQL

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
55. Fear of the changes that may result from TQL implementation	40	3.158	1.443	42%	37%
56. Fear of the criticism from others if you use TQL methods	40	2.9	1.257	30%	43%
57. Fear that applying TQL principles will lead you to make incorrect decisions	40	2.684	0.842	11%	37%
58. Fear that you may anger others if you use TQL methods	40	3.138	1.125	38%	24%
Average	40	2.97	1.195	30%	36%

Scale: 1= Not At All, 5= Very Large Extent

16. Leadership Support for TQL

This subsection required the respondents to assess the support for TQL by their supervisors. Sixty nine percent of the participants responded that their supervisors are practicing TQL methods to a small extent or not at all. More than 50 percent of the participants did not believe that they were receiving direct support from their supervisors for implementing TQL (questions 60, 61 and 63). It appears that the supervisors do not appear to be supportive of TQL activities. Table 4.17 presents the average mean of questions 59-63 as well as the means for each individual question.

Table 4.17. Leadership Support for TQL

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
59. Your supervisor's practice of TQL methods	40	2.229	1.14	14%	69%
60. Your supervisor's assist you in performing quality improvement activities	40	2.529	1.187	24%	56%
61. Consideration of your efforts toward implementing TQL during performance appraisal	40	2.378	1.01	11%	54%
62. Fitting of the organization's policies and procedures with the objectives of TQL	40	3.325	0.944	43%	18%
63. Your supervisor's giving you enough time to perform quality improvement activities	40	2.487	1.023	15%	51%
Average	40	2.59	1.119	22%	49%

Scale: 1= Not At All, 5= Very Large Extent

17. Anticipated TQL Success

This subsection addressed the anticipated success of TQL at the Academy. While 64 percent believe that the Academy needs to improve quality, only 28 percent believe

that TQL will work at the Academy. Table 4.18 presents the average mean of questions 64-66 as well as the means for each individual question.

Table 4.18. Anticipated TQL Success

Question	N	Mean	St. Dev.	% Large Extent and Very Large Extent	% Not At All and Small Extent
64. TQL will work in this organization	40	2.821	1.073	28%	41%
65. Organization's need to improve quality	40	3.769	0.81	64%	5%
66. Consistency of the TQL philosophy with beliefs held by people in this organization	40	3.077	1.109	38%	28%
Average	40	3.222	1.076	44%	25%

Scale: 1= Not At All, 5= Very Large Extent

Section C will provide qualitative data about the implementation of TQL at the Academy. This section provides a summary of interviews that were conducted with ten officers who serve as instructors at the Academy.

C. INTERVIEWS

Though not directly related to each of the survey questions presented before, interviews were conducted with ten faculty members at the Army Academy. Their responses to the indicated questions are shown below. The interview questions are shown in Appendix D (Turkish version) and Appendix E (English version).

1. Incorporation of TQL into the Army Academy Strategic Plan

How has the TQL program been incorporated into the Army Academy's strategic plan?

According to the interview responses, the Department of the Army has approached TQL implementation as a long-term project. As such, it appears the Army Academy has incorporated the TQL into its strategic plan, in line with the strategic plan of the Department of the Army. The Department of the Army, then, has provided support for TQL implementation at the Academy. Further, the Army Academy trains TQL coordinators within the Army brigades consistent with the strategic plan of the Academy.

The mission, vision, objectives and guiding principles are emphasized at the strategic planning level, as determined by the Academy Executive Steering Committee (ESC). Hence, ESC is responsible for setting policies to incorporate the TQL program into the Academy's strategic plan. As a continuing implementation, the preparation of annual plans, determination of change strategies and establishment of annual review and evaluation system are some activities of the ESC.

2. Compatibility of the TQL Program and the Academy Strategies

Would you consider the Turkish Army Academy's strategies and a TQL program compatible? Why or why not?

To interviewees, the Academy strategies and a TQL program appear to be compatible. The TQL mission statements, vision, goals, employee involvement programs, continuous improvement efforts, and teamwork are consistent with the Academy strategies. The ESC plays a key role to provide for and oversee the compatibility between the Academy strategies and the TQL program.

According to the Academy strategy statements, improvement and progress are significant activities for continuous improvements in education and training. That is "continuous improvement" is a process to keep reviewing and improving quality in all aspects of the Academy. TQL is considered a never-ending process, wherein the Academy has undertaken to continuously improve. That is, the Academy constantly is resetting goals, controlling work processes, continuous learning, and evaluating progress. Thus, the "Continuous Improvement and Training Center" was established in the Directorate of Academics Department of the Academy to accomplish the aforementioned.

To form TQL as a part of the Academy's culture, restructuring is an important issue in TQL. TQL planning and implementation is considered to be a time-consuming, never-ending task. Hence, additional meetings, reports, and paperwork regarding TQL seem to decrease the effectiveness of other work to some respondents. The additional tasks regarding TQL take a lot of time and affect the "continuous improvement" activities of teams in a negative way, as has been stated by some interviewees.

3. Main Barriers of Implementing the TQL Program

Describe the main barriers of the Total Quality Leadership (TQL) program at the Turkish Army Academy?

According to some interviews, the lack of understanding and lack of training of senior leaders in the implementation of TQL has been indicated as a significant barrier for a successful TQL program and results. It has been suggested that senior leaders do not adapt to change and innovations easily. Thus, the senior leaders' resistance to change makes TQL implementation vulnerable to possible failure. Leadership involvement and commitment is vital for an effective TQL implementation. A traditional rigid

hierarchical system seems to complicate the training of TQL for high-ranking senior leaders. Thus, it is necessary, yet a possible difficult task to educate and train high-ranking senior leaders to the implementation of TQL actions.

It was reported that most supervisors ignore the TQL philosophy, and do not seem interested in TQL implementation activities. The main reason for the indifference to TQL is the excessive workload. It seems to require TQL has added more work, it appears, to their already busy schedules. The supervisors do not want to spend valuable time for employee participation in the decision-making process. Nor has this means of decision making been part of the military culture. They think that they make quality decisions and do not need the suggestions, ideas of employees. Therefore, the supervisors do not pay attention to the employees' proposals or recommendations. Consequently, supervisors have indicated they are not committed to, nor supportive of, TQL.

In another viewpoint some employees think TQL is just another temporary program. After its implementation has peaked and the "honeymoon" period is done, TQL will disappear. They believe that nothing will really change and that TQL, like other past programs, will fade in time. They are not motivated toward TQL activities, and consider it a waste of time. Furthermore, desire for understanding of TQL methodology, hampers the TQL process and eventual possible success.

4. Elimination of the Barriers

How could the barriers be eliminated, assuming they could?

For interviewees, TQL education and training, commitment to TQL in the long term, and a new climate are necessary to overcome the barriers of TQL. Education and

training for all individuals is the most significant method for the elimination of the barriers. Top management of the Academy has a central role to provide its support for the TQL activities perpetually. A new climate can be useful as an indicator of the change to TQL culture.

First, TQL education and training in TQL philosophy and skills should be emphasized. Persuasion of the employees with substantial improvement examples would prove to be beneficial for the full adoption of the TQL at the Academy. Moreover, active participation of the employees in TQL activities can strengthen the TQL "ownership" of employees. Employee empowerment can be helpful to break the resistance to change. In this manner individuals should be encouraged to utilize TQL methods as a way of doing business. Paperwork should be practical and not consume the valuable time.

A non-threatening environment could be established with increasing communication skills. Use of written media, e-mail, and face-to-face meetings are some useful methods in adopting the TQL culture. Commitment to TQL needs to be developed for the long term. Planned change and a new academy climate integrating TQL can possibly decrease the resistance to TQL implementation. "Openness" to new ideas and "continuous improvement" perspective should be stressed as a means to achieve quality.

Individual motivation for acceptance is vital for a successful TQL implementation. The success of the continuous improvement activities should be shared with employees. A "reward system" can be useful as "positive feedback." The employees should be rewarded for their successful participation in TQL activities.

5. Education and Training

What kind of education, and training courses, are provided, if any, for Academy personnel?

According to interviews, "Continuous Improvement and Training Center," established in the department of the Directorate of Academics, has an active role for the TQL education and training courses. The "Continuous Improvement and Training Center" has organized five-day block TQL training courses for academy personnel. Almost all personnel have taken the five-day block of TQL courses. The supervisors have trained their subordinates, consistent with the TQL courses. Evaluation criteria derived from implementation of TQL, have been reported at weekly meetings of the "Continuous Improvement and Training Center." New measures to improve the training courses have taken according to the results of the implementation.

As a further activity, the "Continuous Improvement and Training Center" has provided a five-day block of TQL training courses for TQL coordinators within the Army brigades. The trained TQL coordinators have played a key role for the establishment of the TQL philosophy at the Army brigades. The TQL coordinators have trained the personnel of the quality improvement teams in their own units. The Army brigades' TQL coordinators are in contact with the "Continuous Improvement and Training Center" of the Army Academy for additional information and coordination of training activities. "Continuous Improvement and Training Center" has played a "consultant" role for the Army brigades' TQL coordinators. It appears that the consultation has been useful for effective TQL implementation at the Army brigades. Consequently, two hundred hours

training has been provided for both the Army Academy personnel and the Army brigades' TQL coordinators.

6. Use of the Process Improvement Tools

What needs to be done to have personnel use the "process improvement tools" of TQL?

According to interviews, use of the process improvement tools among the personnel has been evaluated, again, as a possible cultural issue. The Army Academy culture has not been assimilated within TQL completely. A cultural change at the Academy is a long-term business. Development of commitment to TQL implementation can possibly change the beliefs of individuals to use process improvement tools in their everyday jobs. The practicality and benefits of process improvement tools need to be explained to the personnel. The supervisors have not paid attention to individual jobs from the TQL perspective, and this is considered a necessary action to be done.

With the widespread use of the process improvement tools, an "Efficiency Measurement Board" was established at the department of the Directorate of Academics. This board contains statistics-licensed instructors. The instructors play a "consultant" role regarding use of the statistical tools of TQL. It is suggested, however, that the activities of the "Efficiency Measurement Board" need to be more widespread. Moreover, the "Continuous Improvement and Training Center" could provide additional help to Academy personnel regarding use of the process improvement tools. Additionally, the quality circles guides also have a responsibility to make use of the process improvement tools. Changing jobs to an orientation of TQL methods takes a long time.

7. Increasing Senior Leadership Support for TQL

What might be done to get or increase senior leadership support for TQL?

According to interviews, TQL is a top-down process that requires senior officers to lead the way. It is considered a Commanding Officer's responsibility to lead by example. For instance, one-hour participation of a Commanding Officer in a session of a quality circle creates a high-level of effectiveness and achievement. Without leadership support for TQL, there is little hope for successful implementation and results.

It has been suggested that an education and training course be organized for senior leaders. Education and training could possibly make senior leaders active players in TQL activities. If they are well informed on TQL, their involvement with "continuous improvement" activities can increase. The benefits of TQL need to be explained to the senior leaders with relevant examples. It is essential to effectively inform senior leaders on TQL in order to increase their support.

Persuasion through reasoning is another method that can guide senior leaders toward increased support of the TQL process. One-on-one discussion may be beneficial. Commitment may be gained with organized trips to military or civilian organizations that implement TQL successfully.

8. Benefits Perceived in Implementing TQL

What benefits, if any, have been forecast or perceived in implementing TQL thus far in planning?

According to interviews, quality circles can have a positive impact on organizational effectiveness and process improvement. The combined talent of employees exceeds knowledge of any one individual, thus teamwork creates synergy.

Many decisions require a synergistic approach to solve increasingly complex tasks in the Academy, which utilizes one principle of TQL. The decision-making process can be strengthened with effective teamwork, with benefits realized in the long term.

Empowerment of quality circles to plan and act on various tasks increases employee satisfaction and development. When employees in quality circles feel responsible for their improvement activities, their sense of "ownership" in the business increases. Therefore, they can commit more initiative to their work, get more done, and may even enjoy their work more.

Use of TQL teams can improve communication in the Academy. The openness to the new ideas and information sharing may be helpful for progress in the Academy. Innovative ideas may occur in a non-threatening environment. Those innovative ideas could provide better solutions to the problems of the Academy. Coordination of the activities can be made easily via teamwork.

9. Leadership Competencies Supportive of Implementing TQL

What leadership competencies do you consider supportive the implementation of TQL at the Army Academy?

Participative leadership is considered extremely important in the TQL process. Participation in the quality circles is vital to gain synergistic input to solve key problems. Synergy can be created through full participation of the team. Hence, maximum employee participation in quality circles improves the decision-making process, motivation, and job satisfaction. In that regard, participative leadership style is the most supportive leadership style to the implementation and success of TQL.

A secondary style of competency would be a delegative leadership style, which increases the commitment and sense of ownership of the participants in the quality circles. It promotes employee empowerment. Responsibility, authority and accountability can be delegated to the quality circle members for some tasks, when they know a person has the ability to perform the task in a quality manner.

Coaching provides guidance, information, direction, and advice to quality improvement teams as participants of a team may not always have the complete picture. Coaching also establishes healthy interpersonal relationships and an atmosphere of trust.

D. SUMMARY

The purpose of the data presentation and analyses presented in this chapter was to capture the highlights and trends of the acceptance, planning, and implementation of Total Quality Leadership (TQL) at the Turkish Army Academy. Of the 16 factors, presented in rank-order, it might be argued that the Academy is dedicated to quality in all that it does. This is especially found in the Academy's desire to produce high-quality cadets leading to commissioning as Second Lieutenants. Further, it is noted that after leaving the Academy, the graduates must be competent officers pursuing further education and training in a specialty. The Academy, as previously stated, is dedicated to a high level of quality, however the TQL model in its specificity, may not be the total answer. It is possible that some modification(s) may be needed in the TQL model for a more effective implementation at the Turkish Army Academy. The following chapter presents some recommendations to that end.

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V. CONCLUSIONS AND RECOMMENDATIONS

Chapter V provides a summary and conclusions for each of the research questions that were presented in Chapter I. In addition, recommendations and further areas of research are presented.

A. CONCLUSIONS

1. Primary Research Question

What is the implementation status of TQL in Turkish Army Academy?

TQL activities started in the Turkish Army Academy at the beginning of 1997. The TQL organization model was established, and the definitions of the terms regarding TQL, the Army Academy's quality policy, customer, mission, and vision statements were made. To obtain an ISO-9001 certificate, the first phase of the TQL implementation, the preparations were completed and officially applied at the Academy. TQL education and training were stressed via the "Continuous Improvement and Training Center." Outside consultants also provided TQL training to Academy personnel. Because communication was seen as a key tool for informing personnel about TQL, conferences, seminars, TQL handbooks, close-circuit Cadet Television, communication boards, and wall posters were used for TQL implementation.

In spite of all these activities, this study suggests tat TQL has not been fully integrated into the culture of the Turkish Army Academy.

According to this study most people agree that quality is important and needs to improve, however, it is not clear to Academy employees that the TQL program will be the solution to improving quality.

Academy personnel seem to believe that management truly desires to implement TQL yet there is a perception that supervisors and leaders are not committed to the effort.

Numerous barriers exist that may be hampering the TQL efforts. These barriers are discussed later in this chapter.

2. Subsidiary Research Questions

(1) To what extent has a TQL process been implemented in Turkish Army Academy?

The TQL Climate Survey analysis and interviews indicate that the "Quality Improvement Team Structure" of TQL has been adopted. Because quality circles have been emphasized for the TQL implementation, most employees seem to be participating in TQL activities and serving as members of one of the quality improvement teams.

Employees appear to be collecting data on their work processes, but they are not using basic TQL tools, developing process measures, or applying process improvement methods.

According to the interviews, process improvement methods could be better integrated into the Turkish Army Academy if the practicality and benefits could be better explained and if individuals were taught how to apply TQL to their everyday work.

(2) What leadership competencies are supportive of implementing TQL at the Turkish Army Academy?

According to interviews, participative, delegative and coaching leadership styles are evaluated as supportive of implementing TQL.

Participative leadership is considered a significant leadership style for the successful implementation of TQL. It is believed that synergy can be created through full participation in the quality circles to solve the problems. Participative leadership is considered necessary for successful teamwork.

Delegative leadership is a way to promote employee empowerment. Empowerment is one of the main elements of TQL. Delegative leadership can increase the commitment and ownership sense of the participants in the quality circles.

Coaching leadership style can provide guidance, information, direction, and advice to the quality improvement teams. Coaching can establish healthy interpersonal relationships and an atmosphere of trust among team members and the team leader.

(3) What barriers or obstacles exist, if any, to implementing TQL in Turkish Army Academy?

According to this study a number of barriers exist which are hampering the implementation of TQL at the Academy.

First, Academy personnel do not see the benefits of fully implementing TQL methods into their daily work. Many view TQL as a cause of additional paperwork and meetings with no positive outcomes. Second, knowledge of TQL methods seems to be minimal. It appears that employees do not understand basic TQL concepts much less how to apply them to their work. Third, supervisors and leaders are perceived as uncommitted to the TQL effort. Senior leaders and supervisors are not seen setting examples of quality, and employees do not believe they are receiving much support to implement TQL. This perceived lack of commitment creates a sense that this is a temporary program that will soon disappear.

While the barriers are many, the interviewees were optimistic that the barriers can be overcome. They suggested further education and training; a positive, supportive climate; and visible support from leaders and supervisors including rewards and positive feedback for successful participation in TQL efforts.

B. RECOMMENDATIONS

Based on the data collected and analyzed in Chapter IV a series of recommendations are presented for perusal and decision.

Overall it appears that the Army Academy is committed and desires to follow a strategy of quality, of excellence in actions and in results. To achieve a high level of quality can be elusive and difficult without an executive decision, an approved policy, and commitment by all to strategy initiatives. The recommendations presented here are based on an analysis of the data collection. The recommendations are for consideration and possible adoption by the Army Academy leadership.

Make Dedicated Efforts to Change the Academy Culture to Institutionalize TQL or a Variation

The first recommendation is for the Army Academy to be aware of the need for and conduct a comprehensive plan for changing the culture, institutionalizing TQL. The current culture of the Academy does not facilitate the adoption of the TQL philosophy, strategies, actions, and evaluations to its fullest potential. It appears that TQL was approved to be an important part of Academy operations, as initially established by the Army high command. However, nothing was functionally changed at the Academy to allow TQL's adoption and institutionalism. In this regard, it is strongly proposed that the TQL "classic-Deming" structure and techniques may not "fit" with the academic

environment of the Turkish Army Academy, nor with the follow-on Army specialty schools. Based on the findings, TQL is not considered to be a panacea of quality for the Academy. Therefore, it is further proposed that several important, compatible initiatives be taken in the spirit of achieving a quality philosophy and corresponding initiatives.

Formation and Recommendation by an Academy Quality Focus Team

First, a focus team needs to be formed to determine the applicability and implementation of TQL initiatives at the Academy. This focus team should understand and have the knowledge necessary concerning the "TQL classic" model to determine and develop a truly pragmatic quality implementation model tailored to the Army Academy. The interview respondents have presented the impression that quality is important, but the current TQL program may not be the total solution.

Development of a Quality Model, Tailored to the Army Academy

If the focus team should develop and recommend a "Turkish Army Academy Quality Model," then this may be accepted. This is important, not only for the Army Academy, but also for the other military service schools to emulate. If the Army Academy establishes the mold for future officers, then what the Academy stands for and does will have a direct impact for many years of an officer's career.

Confronting Issues and Barriers to Quality Implementation

In a more pragmatic direction, the Academy Quality Focus Team should address the issues and "barriers" to the current implementation of TQL at the Academy. The focus team might assess and discuss the current status of TQL-specific paperwork and reports, evaluation criteria, and possible cost expenditures and savings by development and implementation of a TQL program. These actions would be in line with

tailoring a TQL program specifically to the Academy.

Senior Officer TQL Seminars

It is recommended that a senior officer TQL seminar be conducted to further educate and align TQL and quality initiatives for the Academy. This would be presented by members of the Continuous Improvement and Training Center. Topics to be covered, but not limited to, would be TQL/quality philosophy in actions; benefits of a TQL program, including potential cost-benefits; recording of TQL initiatives and reports; overcoming resistance to TQL, and establishing a reward system for quality achievements.

Cadet Curriculum Review for Quality Integration

A review of the cadet curriculum is recommended. This review would be done to assess whether the principles of quality, or TQL specifically, are integrated into academic courses. This review would also be concerned with the integration of quality (TQL) behaviors in the cadet chain of command as it develops leadership.

Awards System for Quality Achievements

Currently, there is no reward system for actions to achieve TQL standards. A rewards system needs to be developed and instituted for TQL desired actions. Should such a system be developed and published, then there would be the incentive and motivation to achieve, or exceed, TQL standards. The rewards could be in the form of some criteria in an annual officer or noncommissioned officer's fitness or evaluation report -- having some impact on one's career advancement.

Direct Actions for TQL Institutionalism by Continuous Improvement and Training Center

The Continuous Improvement and Training Center must be assured the needed influence to conduct the executive seminar, as previously recommended. The Center must also take direct actions to both educate and provide evaluation of the TQL Coordinators at the Academy, as well as the Brigade TQL officers. This is especially important based on the data recorded when the respondents indicate that there are not enough benefits in implementing TQL, thus a mental barrier is established, leading to a possible failure of the program.

C. AREAS FOR FUTURE RESEARCH

The Turkish Armed Forces have many educational institutions with a mission to produce quality, competence and potential to meet the rigors of military service. The academic institutions have different dedicated focuses in their objectives to achieve their specific mission. However, it is foreseen that a quality model, even possibly the TQL model, can be developed to meet the needs of each of the service schools. It is proposed through the actions recommended above, the Army Academy take the lead and develop a Turkish TQL model and implementation plans that can be studied and possibly adapted by other service schools. Thus, research could be done by a dedicated officer or by the Academy Focus Team to determine further findings and recommendations.

It is also proposed that research be done within the Turkish Army educational system, either by command or senior staff, as a more comprehensive study. This thesis could provide a valuable benefit as the pilot study for such further investigation.

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APPENDIX A. TOPLAM KALITE LIDERLIGI IKLIM ANKETI

Amerikan Deniz Kuvvetleri Personel Arastirma ve Gelistirme Merkezi
San Diego, Kaliforniya

Bu anket, sizin isiniz ve organizasyonunuz hakkindaki dusuncelerinizi ogrenmek icin dizayn edilmistir. Durust dusunceleriniz memnuniyetle kabul edilecektir. Cevaplamadan once, lutfen her soruyu dikkatlice okuyunuz. Dusuncenize en yakin olan secenegi isaretleyiniz.

Ornek soru:

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmiyorum
1. Bu organizasyonun ust seviye liderleri ustun kaliteliurunler veya hizmetler saglamaya kendilerini adamislar midir?	O	O	O	O	O	O

Bir soruya olan cevabi bilmediginiz zaman veya bu sorunun size uygulanamayacagini dusundugunuz zaman "Bilmiyorum" secenegini kullanin.

Sorulara verilen bireysel cevaplariniz organizasyonunuzdaki hic kimseye verilmeyecektir. Lutfen, ankete isminizi yazmayiniz. Organizasyonunuzda calisanlarin genel davranis ve dusuncelerini degerlendirmek icin sizin saglayacaginiz bilgi, diger calisanlarin bilgisiyle birlestirilecektir. Bu anket sizi tanimlayan bir takim sorulari icermektedir. Bu sorulara verilen cevaplar arastirma maksadiyla kullanilacaktir ve sizi tanimlamak veya sizin bireysel cevaplarinizi aciga cikarmak icin kullanilmayacaktir.

Bu calismadaki yardiminiz takdire sayandir.

Sorular cevaplandirilirken asagidaki tanimlar kullanilacaktir.

Departman : Organizasyonun ana bir fonksiyonunu yerine getiren bolum, bakim departmani veya muhendislik departmani gibi.

Yurutme Yonlendirme Komitesi : Bir organizasyonda en ust seviye kalite gelistirme kurulu.

Dis kaynak saglayici : Organizasyonunuzdaki bir bireye veya gruba, organizsayonunuz disindan materyal, urun, bilgi veya hizmet saglayan bir birey veya grup. (Kara Harp Okulunun dis kaynaklari, askeri liseler ve sivil liselerdir).

Dis musteri : Organizasyonunuz disindaki, organizasyonunuzun ciktisini (urun veya hizmet) alan bir birey veya grup. (Kara Harp Okulu'nun dis musterisi askeri sinif okullaridir).

Ic kaynak saglayici : Organizasyonunuzda, organizasyonunuz icindeki bir baska birey veya gruba girdi saglayan bir birey veya grup. (Ornegin, KHO birinci sinif, ikinci sinif icin bir ic kaynak saglayicidir).

Ic musteri : Organizasyonunuzda, organizasyonunuz icindeki bir baska birey veya gruptan cikti alan bir birey veya grup. (Ornegin, KHO ikinci sinif, birinci sinif icin bir ic musteridir).

Yonetim : Organizasyondaki her seviye idare.

Organizasyon : Calistiginiz organizasyon

Surec uygulama timi : Kalite Yonetim Kurulu tarafindan onaylanan bir tim veya Kalite Yonetim Kurulu tarafindan kullanilan ozel bir tedbir icin surec istikrari elde etmeye yardimci olan fonksiyonel hat yoneticisi.

Kalite Yonetim Kurulu : Bir surec, sistem, urun, veya hizmet icin birlikte sorumlu olan tum yoneticilerden olusan kurul.

Ust seviye liderler : Organizasyonun en ust rutbeli sahislari ve direkt olarak bu sahislara sorumlu olanlar.

Amir : Sizin direkt olarak bagli oldugunuz kisi (sizin performansinizi resmi olarak degerlendiren kisi).

Toplam Kalite Liderligi : Su anda ve gelecekte, organizasyona saglanan materyaller ile hizmetleri, organizasyondaki tum onemli surecleri ve son kullanicinin ihtiyaclarinin karsilanmasini degerlendirmek ve gelistirmek icin kantitatif methodlar ve insanlarin bilgisinin uygulanmasi.

Calisma Timi : Sizinle en yogun calisan kisiler (gun be gun).

Bu bolum, organizasyonunuzdaki Toplam Kalite Liderligi uygulamasi ile ilgili kisimlari kapsamaktadir.

Ne dereceye kadar...	**Hic**	**Az**	**Orta**	**Cok**	**Cok Fazla**	**Bilmi-yorum**
1. Bu organizasyonun ust seviye liderleri ustun kaliteli urunler veya hizmetler saglamaya kendilerini adamislar midir?	O	O	O	O	O	O
2. Ust seviye liderlerimiz organizasyonun is kalitesini duzenli olarak gozden geciriyorlar mi?	O	O	O	O	O	O
3. Organizasyondaki ust seviye liderlerimiz kalite performansi ornekleri olusturuyor mu?	O	O	O	O	O	O
4. Bu organizasyon uzun donem kalite objektifine sahip mi?	O	O	O	O	O	O
5. Kalite gelisimini baska bir organizasyonel program olarak mi goruyorsunuz?	O	O	O	O	O	O
6. Toplam Kalite Liderligi, organizasyonun genel stratejisiyle butunlesmis midir?	O	O	O	O	O	O
7. Toplam Kalite Liderligi faaliyetleri organizasyonun uzun donem hedefleriyle uyumlu mudur?	O	O	O	O	O	O
8. Organizasyonun dis musterilerinin (sinif okullari) ihtiyaclarini siz anlayabiliyor musunuz?	O	O	O	O	O	O
9. Organizasyonunuz, dis musterilerinizin ihtiyaclarini karsilamaya odaklanmis midir?	O	O	O	O	O	O

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmi-yorum
10. Yonetim, dis musteri standartlarindaki degisiklikler icin ileriye donuk planlar yapmaya calisiyor mu?	O	O	O	O	O	O
11. Yonetim, size dis musterilerini acikca tanitti mi?	O	O	O	O	O	O
12. Ic musterilerinizin ihtiyaclarini anliyor musunuz?	O	O	O	O	O	O
13. Ic musterilerinizin ihtiyaclarini karsiladiginiza inaniyor musunuz?	O	O	O	O	O	O
14. Ic musteri standartlarindaki degisiklikler icin ileriye donuk plan yapiyor musunuz?	O	O	O	O	O	O
15. Ic musterilerinizin kim oldugunu biliyor musunuz?	O	O	O	O	O	O
16. Yonetim, dis kaynaklarin (Askeri Liseler/Sivil Liseler) urunlerinin veya servislerinin kalitesini aktif olarak gozlemliyor mu?	O	O	O	O	O	O
17. Yonetim, dis kaynaklarin karsilamasi gereken kalite standartlarini tanimlamakta midir?	O	O	O	O	O	O
18. Yonetim, organizasyonun kalite standartlarini dis kaynaklara iletiyor mu?	O	O	O	O	O	O
19. Yonetim, daha az dis kaynak kullanmak icin calisiyor mu?	O	O	O	O	O	O
20. Ic kaynaklarinizin urunlerinin veya servislerinin kalitesi gozlemleniyor mu?	O	O	O	O	O	O
21. Ic kaynaklariniz icin, kalite standartlari tanimlanmakta midir?	O	O	O	O	O	O

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmi-yorum
22. Ic kaynaklariniza, kalite standartlari iletiliyor mu?	O	O	O	O	O	O
23. Kalite standartlarinizin ic kaynaklar tarafindan karsilandigina inaniyor musunuz?	O	O	O	O	O	O
24. Sureclerin gelisimi icin yedi temel grafik methodtan herhangi birisini kullaniyor musunuz? (Trend grafigi, histogram, Pareto grafigi, akis diyagrami, neden & etki diyagrami, dagilma diyagrami, kontrol grafigi)	O	O	O	O	O	O
25. Is surecinizde data topluyor musunuz?	O	O	O	O	O	O
26. Surec tedbirleri gelistirmekte misiniz?	O	O	O	O	O	O
27. Calisma timiniz, kritik sureclere, surec iyilestirme methodlarini uyguluyor mu?	O	O	O	O	O	O
28. Bu organizasyonda, isinizden gurur duymanizi engelleyen bariyerler var mi?	O	O	O	O	O	O
29. Iyi is yaptiginiz zaman anlatabiliyor musunuz?	O	O	O	O	O	O
30. Az kaliteli sonuclar uretecek donanim veya materyaller kullanmaya zorlandiriliyor musunuz?	O	O	O	O	O	O
31. Performans degerlendirme sistemimiz, isinizden gurur duymaniza engeller olusturuyor mu?	O	O	O	O	O	O
32. Departmaniniz icindeki calisma timleri, bir digerinin hedeflerini anliyor mu?	O	O	O	O	O	O
33. Departmaniniz icindeki calisma timleri, bir diger calisma timinin hedeflerine ulasmasi icin, birlikte calisiyor mu?	O	O	O	O	O	O

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmi-yorum
34. Departmaninizdaki calisma timleri, bir diger calisma timinin problemlerini ve zorluklarini anliyor mu?	O	O	O	O	O	O
35. Departmaninizdaki calisma timleri birbirleriyle gecinebiliyor mu?	O	O	O	O	O	O
36. Departmaninizdaki insanlar, diger departmanlarin hedeflerini anliyor mu?	O	O	O	O	O	O
37. Departmaninizdaki insanlar, diger departmanlardaki insanlarin hedeflerine ulasmalari icin, onlarla birlikte calisiyor mu?	O	O	O	O	O	O
38. Departmaninizdaki insanlar, diger departmanlardaki insanlarin problemlerini ve zorluklarini anliyor mu?	O	O	O	O	O	O
39. Farkli departmanlar arasinda iyi iliskiler var mi?	O	O	O	O	O	O
40. Temel Toplam Kalite Liderligi konseptlerini anliyor musunuz?	O	O	O	O	O	O
41. Toplam Kalite Liderligini isinizde kullanabilecek kadar iyi anliyor musunuz?	O	O	O	O	O	O
42. Toplam Kalite Liderligini, is sureclerinizi gelistirecek kadar iyi anliyor musunuz?	O	O	O	O	O	O

Asagidaki sorular, spesifik Toplam Kalite Liderligi rollerindeki tecrubeniz hakkindadir. Bu organizasyonda, son bir yilda, asagidaki Toplam Kalite Liderligi rollerinde gorev yapmissaniz lutfen belirtiniz.

	Evet	Hayir	Bilmi-yorum
43. Surec Uygulama Tim uyesi olarak gorev yaptiniz mi?	O	O	O

	Evet	Hayir	Bilmi-yorum
44. Kalite Yonetim Kurulu uyesi olarak gorev yaptiniz mi?	O	O	O
45. Yurutme Yonlendirme Komitesi uyesi olarak gorev yaptiniz mi?	O	O	O
46. Toplam Kalite Liderligi tim danismani/kolaylastiricisi olarak gorev yaptiniz mi?	O	O	O

Bu kisim, Toplam Kalite Liderligi yaklasiminin kullanilmasini ve uygulanmasini etkileyebilecek faktorlerle ilgilidir.

Ne dereceye kadar...	**Hic**	**Az**	**Orta**	**Cok**	**Cok Fazla**	**Bilmi-yorum**
47. Bu organizasyondaki askeri yonetim, Toplam Kalite Liderligi'ni uygulamak istiyor mu?	O	O	O	O	O	O
48. Amiriniz, Toplam Kalite Liderligi'ni uygulamak istiyor mu?	O	O	O	O	O	O
49. Diger calisanlar, Toplam Kalite Liderligi'ni uygulamak istiyor mu?	O	O	O	O	O	O
50. Siz, Toplam Kalite Liderligi'ni uygulamak istiyor musunuz?	O	O	O	O	O	O
51. Toplam Kalite Liderligi, uretkenligi artirabilir mi?	O	O	O	O	O	O
52. Toplam Kalite Liderligi, kaliteyi gelistirebilir mi?	O	O	O	O	O	O
53. Toplam Kalite Liderligi, teknik kabiliyetleri gelistirebilir mi?	O	O	O	O	O	O
54. Toplam Kalite Liderligi, organizasyonun ununu gelistirebilir mi?	O	O	O	O	O	O

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmi-yorum
55. Toplam Kalite Liderligi uygulamasindan kaynaklanacak degisimlerden korkuyor musunuz?	O	O	O	O	O	O
56. Organizasyonda, eger Toplam Kalite Liderligi methodlarini uygularsaniz, baskalarinin elestirilerinden korkar misiniz?	O	O	O	O	O	O
57. Toplam Kalite Liderligi prensiplerini uygulamanin, sizi yanlis kararlar vermeye yonlendirmesinden korkar misiniz?	O	O	O	O	O	O
58. Eger Toplam Kalite Liderligi methodlarini uygularsaniz, baskalarini kizdiracaginizdan korkar misiniz?	O	O	O	O	O	O
59. Amiriniz, Toplam Kalite Liderligi methodlarini uyguluyor mu?	O	O	O	O	O	O
60. Kalite iyilestirme faaliyetlerinin yapilmasinda, amiriniz size yardimci oluyor mu?	O	O	O	O	O	O
61. Performans degerlendirmesinde, ToplamKalite Liderligi uygulamasindaki cabalariniz goz onunde bulunduruluyor mu?	O	O	O	O	O	O
62. Organizasyonun politika ve prosedurleri, Toplam Kalite Liderligi hedefleri ile uyumlu mu?	O	O	O	O	O	O
63. Kalite iyilestirme faaliyetlerinin yapilmasi icin amiriniz size yeterli zaman veriyor mu?	O	O	O	O	O	O
64. Toplam Kalite Liderliginin bu organizasyonda calisacagini dusunuyor musunuz?	O	O	O	O	O	O

Ne dereceye kadar...	Hic	Az	Orta	Cok	Cok Fazla	Bilmi-yorum
65. Bu organizasyonun kaliteyi gelistirmeye ihtiyaci var mi?	O	O	O	O	O	O
66. Bu organizasyondaki insanlarin dusunceleri ile Toplam Kalite Liderligi felsefesi uyumlu mu?	O	O	O	O	O	O

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APPENDIX B. TOTAL QUALITY LEADERSHIP CLIMATE SURVEY (TQLCS)

U.S. Navy Personnel Research and Development Center
San Diego, California

This survey is designed to obtain your thoughts about your job and organization. Your honest opinions are sincerely welcome. Please read each question carefully before responding. Fill in the bubble that most nearly represents your opinion.

Example question:

To What Extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
1. Are the senior leaders of this organization committed to providing top quality products or services?	O	O	O	O	O	O

Use the "Don't Know" category when you do not know the answer to a question or when you think the question is not applicable to you.

Your individual answers to questions will not be given to anyone in your organization. Please do not sign your name to this survey. The information you provide will be combined with the information of other employees to evaluate general attitudes and opinions of employees in your organization. The survey includes several questions describing yourself. The answers to these questions will be used for research purposes and will not be used to identify you or reveal your individual responses.

Your assistance in this effort is appreciated.

The following definitions are to be used when responding to the questions.

Department : A section of the organization that fulfills a major function, such as the maintenance department or the engineering department.

Executive Steering Committee: The highest level quality improvement team in an organization.

External supplier : An individual or group outside your organization (vendor) that provides materials, products, information, or services to an individual or group within your organization. (External suppliers of the Turkish Army Academy are military high schools and civilian high schools).

External customer : An individual or group outside the producing organization who receives or uses the output of a process (product or service). (External customers of the Turkish Army Academy are military occupation schools).

Internal supplier : An individual or group within your organization who provides input to another individual or group within your organization. (i.e. Turkish Army Academy freshman class term is internal supplier for the sophomore class term).

Internal customer : An individual or group inside the producing organization who receives or uses the output of a process (product or service). (i.e. Turkish Army Academy sophomore class term is internal customer for freshman class term).

Management : Any/all levels of supervision in the organization.

Organization : The organization for which you work.

Process Action Team :. A team that is chartered by a Quality Management Board (QMB) or a functional line manager to assist in achieving process stability for a particular measurement being used by the QMB.

Quality Management Board : A team composed of all the managers who are jointly responsible for a process, system, product, or service.

Senior leaders : The highest-ranking official of the organization and those reporting directly to that official.

Supervisor : The person to whom you directly report (the person who formally evaluates your performance).

TQL : Total Quality Leadership. The application of quantitative methods and knowledge of people to assess and improve: materials and

services supplied to the organization; all significant processes in the organization; and meeting the needs of the end user, now and in the future.

Work Team : The people who work with you most frequently (on a day-to-day basis).

This section contains items concerned with the implementation of TQL in your organization.

To what extent...	**Not At All**	**Small Extent**	**Some Extent**	**Large Extent**	**Very Large Extent**	**Don't Know**
1. Are the senior leaders of this organization committed to providing top quality products or services?	O	O	O	O	O	O
2. Do our senior leaders regularly review the quality of the organization's work?	O	O	O	O	O	O
3. Do our senior leaders in this organization set examples of quality performance?	O	O	O	O	O	O
4. Does this organization have a long-term quality focus?	O	O	O	O	O	O
5. Do you see quality improvement as just another organizational program?	O	O	O	O	O	O
6. Is TQL incorporated into the overall organizational strategy?	O	O	O	O	O	O
7. Are TQL activities consistent with the long-term goals of the organization?	O	O	O	O	O	O
8. Do you understand the needs of this organization's external customers (military occupation schools)?	O	O	O	O	O	O
9. Does the organization focus on meetings the needs of external customers?	O	O	O	O	O	O

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
10. Does management try to plan ahead for changes in external customer requirements?	O	O	O	O	O	O
11. Has management clearly identified its external customers to you?	O	O	O	O	O	O
12. Do you understand the needs of your internal customers?	O	O	O	O	O	O
13. Do you believe you are meeting the needs of your internal customers?	O	O	O	O	O	O
14. Do you plan ahead for changes in internal customer requirements?	O	O	O	O	O	O
15. Do you know who your internal customers are?	O	O	O	O	O	O
16. Does management actively monitor the quality of external suppliers' (Military high schools and civilian high schools) products or services?	O	O	O	O	O	O
17. Has management defined the quality requirements that external suppliers must meet?	O	O	O	O	O	O
18. Does management communicate the organization's quality requirements to external suppliers?	O	O	O	O	O	O
19. Is management working toward using fewer external suppliers?	O	O	O	O	O	O
20. Is the quality of your internal suppliers' products or services monitored?	O	O	O	O	O	O
21. Have quality requirements been defined for your internal suppliers?	O	O	O	O	O	O

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
22. Have quality requirements been communicated to your internal suppliers?	O	O	O	O	O	O
23. Do you believe your quality requirements are being met by internal suppliers?	O	O	O	O	O	O
24. Do you use any of the seven basic graphical tools to help improve processes (run chart, histogram, Pareto chart, flow diagram, cause & effect diagram, scatter diagram, control chart)?	O	O	O	O	O	O
25. Do you collect data on your work process?	O	O	O	O	O	O
26. Have you developed process measures?	O	O	O	O	O	O
27. Does your work team apply process improvement methods to critical processes?	O	O	O	O	O	O
28. Are there barriers in this organization that prevent you from taking pride in your work?	O	O	O	O	O	O
29. Can you tell when you have done a good job?	O	O	O	O	O	O
30. Are you forced to use equipment or materials that will produce poor-quality results?	O	O	O	O	O	O
31. Does our performance appraisal system create barriers to pride in workmanship?	O	O	O	O	O	O

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
32. Do work teams in your department understand one another's goals and objectives?	O	O	O	O	O	O
33. Do work teams in your department work together to achieve one another's goals and objectives?	O	O	O	O	O	O
34. Do work teams in your department understand one another's problems and difficulties?	O	O	O	O	O	O
35. Do work teams in your department get along with one another?	O	O	O	O	O	O
36. Do people in your department understand the goals and objectives of other departments?	O	O	O	O	O	O
37. Do people in your department work with people in other departments to achieve one another's goals and objectives?	O	O	O	O	O	O
38. Do people in your department understand the problems and the difficulties of people in other departments?	O	O	O	O	O	O
39. Are there good relations between different departments?	O	O	O	O	O	O
40. Do you understand basic TQL concepts?	O	O	O	O	O	O
41. Do you understand TQL well enough to use it in your job?	O	O	O	O	O	O
42. Do you understand TQL well enough to improve your work processes?	O	O	O	O	O	O

The following questions ask about your experience in specific TQL roles. Please indicate if you have served in the following TQL related roles during the last year in this organization.

	Yes	No	Don't Know
43. Have you served as a member of a Process Action Team?	O	O	O
44. Have you served as a member of a Quality Management Board?	O	O	O
45. Have you served as a member of the Executive Steering Committee?	O	O	O
46. Have you served as a TQL team adviser/facilitator?	O	O	O

These items are concerned with factors that may affect implementing and using the TQL approach

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
47. Does military management in this organization want to implement TQL?	O	O	O	O	O	O
48. Does your supervisor want to implement TQL?	O	O	O	O	O	O
49. Do your co-workers want to implement TQL?	O	O	O	O	O	O
50. Do you want to implement TQL?	O	O	O	O	O	O
51. Can TQL increase productivity?	O	O	O	O	O	O
52. Can TQL improve quality?	O	O	O	O	O	O
53. Can TQL improve technical capabilities?	O	O	O	O	O	O

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
54. Can TQL improve the organization's reputation?	O	O	O	O	O	O
55. Do you fear the changes that may result from TQL implementation?	O	O	O	O	O	O
56. Do you fear the criticism from others in the organization if you use TQL methods?	O	O	O	O	O	O
57. Do you fear that applying TQL principles will lead you to make incorrect decisions?	O	O	O	O	O	O
58. Do you fear that you may anger others if you use TQL methods?	O	O	O	O	O	O
59. Does your supervisor practice TQL methods?	O	O	O	O	O	O
60. Does your supervisor assist you in performing quality improvement activities?	O	O	O	O	O	O
61. Are your efforts toward implementing TQL considered during performance appraisal?	O	O	O	O	O	O
62. Do the organization's policies and procedures fit with the objectives of TQL?	O	O	O	O	O	O
63. Does your supervisor give you enough time to perform quality improvement activities?	O	O	O	O	O	O
64. Do you think TQL will work in this organization?	O	O	O	O	O	O
65. Does this organization need to improve quality?	O	O	O	O	O	O

To what extent...	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
66. Is the TQL philosophy consistent with beliefs held by people in this organization?	O	O	O	O	O	O

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APPENDIX C. STATISTICAL VALUES OF THE TQL CLIMATE SURVEY RESULTS

Question	Mean	St. Dev.	N	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
1	2.833	0.979	40	3	8	17	6	2	4
2	3.2	1.079	40	3	5	12	12	3	5
3	2.371	0.770	40	5	13	16	1	0	5
Leadership Involvement in Quality Performance	2.801	1.003	40						
4	3.459	1.016	40	1	6	10	15	5	3
5	4.077	1.061	40	2	1	5	15	16	1
6	2.825	1.059	40	3	14	13	7	3	0
7	2.684	0.842	40	3	11	20	3	1	2
TQL Planning	3.261	1.136	40						
8	3.138	1.125	40	3	4	11	8	3	11
9	2.686	1.132	40	5	12	9	7	2	5
10	2.882	1.122	40	4	10	7	12	1	6
11	2.666	1.080	40	6	7	13	6	1	7
External Customer Orientation	2.843	1.117	40						
12	3.325	0.944	40	1	6	16	13	4	0
13	3.205	0.978	40	2	7	13	15	2	1
14	3.189	1.076	40	4	4	12	15	2	3
15	3.55	0.714	40	0	2	17	18	3	0
Internal Customer Orientation	3.317	0.937	40						
16	3.605	0.887	40	1	2	13	17	5	2
17	3.175	1.107	40	3	8	12	13	4	0
18	2.576	1.062	40	5	11	12	3	2	7
19	2.36	1.319	40	9	5	6	3	2	15
External Supplier Quality	2.929	1.174	40						

Question	Mean	St. Dev.	N	Not At All	Small Extent	Some Extent	Large Extent	Very Large Extent	Don't Know
20	3.821	0.823	40	0	2	11	18	8	1
21	3.063	1.076	40	3	6	11	10	2	8
22	3.147	1.234	40	4	6	10	9	5	6
23	2.412	1.048	40	6	14	10	2	2	6
Internal Supplier Orientation	3.111	1.156	40						
24	2.105	1.181	40	15	11	7	3	2	2
25	3.923	0.984	40	1	2	8	16	12	1
26	2.432	1.042	40	6	16	10	3	2	3
27	2.472	1.207	40	10	8	11	5	2	4
Process Management	2.733	1.307	40						
28	3.7	1.091	40	2	2	13	12	11	0
29	2.703	1.288	40	8	9	10	6	4	3
30	3.632	1.239	40	2	6	8	10	12	2
31	4.436	0.912	40	1	0	5	8	25	1
Barriers to Pride in Workmanship	3.618	1.283	40						
32	2.459	1.070	40	7	13	12	3	2	3
33	2.842	1.128	40	5	9	14	7	3	2
34	2.784	1.031	40	4	10	15	6	2	3
35	2.714	1.152	40	6	8	14	4	3	5
Inter-group Cooperation	2.7	1.094	40						
36	2.235	1.075	40	10	11	9	3	1	6
37	2.571	1.195	40	8	9	10	6	2	5
38	2.6	1.133	40	6	7	12	3	2	10
39	2.514	1.216	40	9	10	11	4	3	30
Barriers Between Departments	2.48	1.154	40						
40	2.436	0.912	40	6	14	16	2	1	1
41	2.784	1.326	40	5	14	8	4	6	3
42	2.763	1.283	40	5	15	8	4	6	2
Knowledge of TQL	2.661	1.174	40						
Question			**N**	**Yes %**	**No %**	**Don't Know %**	**Yes**	**No**	**Don't Know**
43			40	27.5	62.5	10	11	25	4

Question			N	Yes %	No %	Don't Know %	Yes	No	Don't Know
44			40	35	50	15	14	20	6
45			40	12.5	82.5	5	5	33	2
46			40	22.5	70	7.5	9	28	3
Question	**Mean**	**St. Dev.**	**N**	**Not At All**	**Small Extent**	**Some Extent**	**Large Extent**	**Very Large Extent**	**Don't Know**
47	3.737	0.921	40	1	2	10	18	7	2
48	2.769	1.063	40	4	12	15	5	3	1
49	2.95	1.154	40	5	9	12	11	3	0
50	3.225	1.230	40	4	6	15	7	8	0
Commitment to TQL	3.170	1.148	40						
51	2.788	1.053	40	3	10	14	3	3	7
52	3	1.247	40	4	10	11	6	6	3
53	2.763	1.101	40	5	10	15	5	3	2
54	2.788	1.053	40	3	10	14	3	3	7
Perceived Benefits of Implementing TQL	2.835	1.112	40						
55	3.158	1.443	40	6	8	8	6	10	2
56	2.9	1.257	40	5	12	11	6	6	0
57	2.684	0.842	40	3	11	20	3	1	2
58	3.138	1.125	40	3	4	11	8	3	11
Fear of Implementing TQL	2.97	1.195	40						
59	2.229	1.140	40	10	14	6	3	2	5
60	2.529	1.187	40	7	12	7	6	2	6
61	2.378	1.010	40	8	12	13	3	1	3
62	3.325	0.944	40	1	6	16	13	4	0
63	2.487	1.023	40	7	13	13	5	1	1
Leadership Support for TQL	2.59	1.119	40						
64	2.821	1.073	40	4	12	12	9	2	1
65	3.769	0.810	40	0	2	12	18	7	1
66	3.077	1.109	40	4	7	13	12	3	1
Anticipated TQL Success	3.222	1.076	40						

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APPENDIX D. ROPORTAJ SORULARI

1. Toplam Kalite Liderligi programi, KHO'nun stratejik plani ile nasil butunlestirilmistir?
2. KHO stratejilerinin, bir Toplam Kalite Liderligi programi ile uyumlu oldugunu dusunur musunuz? Neden uyumludur veya neden uyumlu degildir?
3. KHO'nda, Toplam Kalite Liderligi programinin ana engellerini tarif ediniz.
4. Bu engellerin yok edilebilecegini varsayarsak, bu engeller nasil ortadan kaldirilabilir?
5. KHO personeli icin , eger varsa, ne tur egitim ve ogretim kurslari saglanmaktadir?
6. Personelin Toplam Kalite Liderligi "surec iyilestirme methodlari"ni kullanmasi icin neler yapilmalidir?
7. Toplam Kalite Liderligi'ne, ust seviye liderlerin destegini saglamak veya artirmak icin ne yapilabilir?
8. Su ana kadar, planlama safhasinda, eger varsa, Toplam Kalite Liderligi'ni uygulamada ne tur faydalar gorulmustur veya tahmin edilmektedir?
9. KHO'da, ne tur liderlik becerilerinin Toplam Kalite Liderligi uygulamasini destekleyecegini dusunursunuz?
10. Akademideki Toplam Kalite Liderligi uygulamasi icin tavsiyeleriniz nelerdir?

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APPENDIX E. INTERVIEW QUESTIONS

1. How has the TQL program been incorporated into the Army Academy's strategic plan?
2. Would you consider the Turkish Army Academy strategies and a TQL program compatible? Why or why not?
3. Describe the main barriers of the Total Quality Leadership (TQL) program at the Turkish Army Academy?
4. How could the barriers be eliminated, assuming they could?
5. What kind of education, and training courses, are provided if any, for Academy personnel?
6. What needs to be done to have personnel use the "process improvement tools" of TQL?
7. What might be done to get or increase senior leadership support for TQL?
8. What benefits, if any, have been forecasted or perceived in implementing TQL, thus far in planning?
9. What leadership competencies do you consider supportive the implementation of TQL at the Army Academy?
10. What are your recommendations for the TQL implementation at the Academy?

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APPENDIX F. INDIVIDUAL PROPOSAL FORM

INDIVIDUAL PROPOSAL FORM

Name : **Number:**
Rank : **Date :**
Military Unit :

☐ **Headquarters of Command** ☐ **Directorate of Academics**
☐ **Cadet Regimental Command** ☐ **Supporting Units Command**

Duty :

When your proposal is responded, do you want your name to be revealed?
☐ Reveal my name ☐ Do not reveal my name

Note: Your proposal will be evaluated no later than one week, and the result will be announced on the bulletin board.

Your Proposal:

Signature

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APPENDIX G. PROPOSAL EVALUATION FORM

PROPOSAL EVALUATION FORM

1. **PROPOSAL :**
   - **A. PROPONENT :**
   - **B. NUMBER and DATE :**
   - **C. PROPOSAL SUMMARY :**

2. **PROPOSAL EVALUATION :**

3. **RESULT AND TREATMENT :**

Signature

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